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Ontario Education Association
CONSTITUTION, BY-LAWS,

AND

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RULES OF ORDER,

OF THE

ONTARIO TEACHERS' ASSOCIATION;

TOGETHER WITH

THE MINUTES

OF THE

TWELFTH ANNUAL MEETING,

HELD IN TORONTO, AUGUST, 1872.



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CONSTITUTION
OF THE
TEACHERS' ASSOCIATION
OF
ONTARIO.

PREAMBLE.

The objects of the Association are:—

1st. To advance the interest of Education, by encouraging the formation of Local Associations throughout the country, and affording them the means of comparing their views on the various subjects connected with the interests of practical Education, and of the Profession; and of giving expression to such views and conclusions as they may, in general Convention, agree upon.

2nd. To suggest to the Council of Public Instruction, and press upon the attention of the Legislature, such improvements or modifications in the School Law, as from experience may appear to Teachers expedient or necessary.

CONSTITUTION.

NAME.

Article 1.—This Association shall be styled “The Teachers’ Association of Ontario.”

WHO ELIGIBLE FOR MEMBERSHIP.

Article 2.—All persons engaged in any department of Education shall be eligible to Membership.

MEMBERS, HOW ADMITTED.

Article 3.—Application for admission to Membership shall be made, or referred to the Board of Directors, or such Committee as they shall appoint; and all who may be recommended by them, and

accepted by a majority vote of the members present, shall be entitled to the privileges of this Association, upon signing the Constitution, and paying the prescribed fee. This fee is dispensed with in the case of Lady Teachers.

HONORARY MEMBERS.

Article 4.—Upon the recommendation of the Board of Directors, any person who may have been distinguished as an educator may be elected an honorary member by a two-thirds vote of the members present (the vote to be by ballot), and as such shall have all the rights of a regular member, except those of voting and holding office.

BRANCH ASSOCIATIONS.

Article 5.—Every Local Association appointing a Delegate to represent it at the Annual Meeting shall be a Branch Association, and shall, through its Representative, have one vote for each of its members connected with this Association not present at the Annual Meeting; provided that the names of such Members and such Representative, together with the annual fees for the same, be transmitted to the Secretary on or before the first day of August in each year.

ANNUAL FEE.

Article 6.—The annual fee to members of Branch Associations shall be 50 cents; to others, \$1.

LIFE MEMBERS.

Article 7.—Any person eligible to Membership may become a Life Member by at once paying ten dollars.

OFFICERS AND BOARD OF DIRECTORS.

Article 8.—The Officers of this Association shall consist of a President, six Vice-Presidents, a Recording Secretary, a Corresponding Secretary, a Treasurer, five Councillors, and the Delegates from the Branch Associations. These Officers shall constitute the Board of Directors, and shall be elected annually.

MEETINGS.

Article 9.—A meeting of the Association shall be held annually, in the first or second week in August, at which meeting twenty members shall form a quorum. The place and the precise time of meeting shall be determined by the Association, at its annual meeting. Special meetings shall be held at such times and places as the President shall determine, on the recommendation of twenty members.

ADOPTION OF BY-LAWS.

Article 10.—By-laws, not inconsistent with this Constitution, may be adopted by a two-thirds vote of the Association.

AMENDMENTS TO THE CONSTITUTION.

Article 11.—This Constitution may be altered or amended at any regular meeting of the Association, by the unanimous vote of the members present; or by a two-thirds vote, providing the alterations or amendments have been substantially proposed at a previous regular meeting.

BY - LAWS.

DUTIES OF BOARD OF DIRECTORS.

The Board of Directors shall have power to fill all vacancies in their own body; shall have in charge the general interests of the Association; shall make all necessary arrangements for its meetings; and shall do all in their power to render it a useful and honorable Institution. The Board of Directors shall hold their regular meetings two hours before the time of the assembling of the Association; as occasion may require during the meeting of the Association, and immediately after the adjournment of the same. Five of the Board of Directors shall form a quorum for business. The President shall have power to call a meeting of the Board whenever the interests of the Association may seem to demand it.

DUTIES OF PRESIDENT.

The President shall preside at all meetings of the Association and of the Board of Directors, and shall perform such other duties as by custom devolve upon a presiding officer; and shall be *ex officio* member of all Committees. In his absence, one of the Vice Presidents shall preside; and in the absence of all the Vice-Presidents, a *pro tempore* Chairman shall be appointed on nomination, the Secretary putting the question.

DUTY OF SECRETARIES.

The Secretaries shall keep a full and just record of the proceedings of the Association and of the Board of Directors; shall give notice of the meetings of the Association and of the Board of Directors; shall conduct such correspondence as the Directors may assign; prepare a daily order of business for the use of the Chairman; and shall have their records present at all meetings of the Association and of the Board of Directors.

DUTIES OF TREASURER.

The Treasurer shall receive and hold in safe keeping all moneys paid to the Association; shall invest, deposit, or expend the same as the Board of Directors shall order; and shall keep an exact account

of his receipts and expenditure, with vouchers for the latter, which account he shall render to the Board of Directors prior to each regular meeting of the Association; he shall also present an abstract thereof to the Association; and shall give such security for the faithful discharge of his duties as may be required by the Board of Directors.

DUTY OF COMMITTEES.

That each Standing Committee shall bring before the Association, at its annual meeting, a written report upon the subject or subjects it was appointed to deliberate upon; and when its deliberations cannot be carried on in the usual manner, each member shall forward to the Chairman his opinions in writing upon the subject to be considered, in order that the latter may prepare a report that shall embody the conclusions arrived at by a majority of the Committee.

1. All questions proposed for debate shall be in accordance with the declared objects of the Association, and shall be delivered to one of the Secretaries in writing, for the approval of the Board of Directors.

2. Theological questions of a sectarian nature shall not be introduced or discussed at any meeting.

3. Each speaker in a debate shall be allowed ten minutes; the mover shall be allowed five minutes at the close for a reply; five minutes shall be allowed for each Reading, and twenty-five minutes for an Essay.

4. The questions debated at each meeting shall be decided by a majority of the members present.

5. The Lecturers for each public meeting shall be appointed by the Board of Directors, and one of them, at least, shall be a teacher of a High or Public School.

RULES OF ORDER.

1. On a point of order being raised while a member is speaking, the member speaking shall at once take his seat. The point of order shall then be stated by the member objecting, and the Chairman shall without further debate decide thereupon, stating the rule applicable to the case without argument or comment.

2. No motion shall be put from the chair unless submitted in writing, except a motion to adjourn, to lay on the table, or of the previous question.

3. Without the permission of the Chairman, no member shall speak when there is not a motion before the Association.

4. No member shall speak to a motion until it has been delivered to the Chairman in writing, with the names of the mover and seconder thereon. The mover shall then have the first, and the seconder the second right of speaking to such motion.

5. No amendment to a motion can be received after an amendment to an amendment, nor any motion unless for the previous question, to lay on the table, or to adjourn simply.

6. A motion to adjourn simply shall take precedence of all motions and amendments; a motion to lay on the table of all except to adjourn; a motion for the previous question of all except to adjourn or to lay on the table.

7. The yeas and nays upon any question shall be recorded on the minutes, when called for by five members.

8. When a member intends to speak or submit a motion, he shall rise in his place, and respectfully addressing the chair, confine himself to the question, and avoid personalities; and any member once reprimanded for the indulgence of improper language and persevering in it, shall be liable to public censure or expulsion, as the Association may determine.

9. Should more than one member rise to speak at the same time, the Chairman shall at once, and without appeal, determine who is entitled to the floor.

10. Members shall speak but once on any question, including amendments, without the consent of the Association.

11. The previous question shall be put in this form—"Shall the question be put now?" If this be carried, no further motions, amendments, or debate shall be permitted, but the question put without delay.

12. The following questions shall not be debateable—1st. To adjourn simply. 2nd. To lay on the table. 3rd. The previous question.

13. No amendment to the minutes shall be allowed after their adoption; and no resolution to expunge any part of them shall have any other effect than the erasure of the record, nor shall any motion to expunge be in order until after a motion for their adoption.

14. A motion to adjourn simply shall always be in order, except 1st. when a member is in possession of the floor; 2nd. when members are voting; 3rd. when an adjournment was the last preceding motion; 4th. when it has been decided that the previous question shall be put.

15. A rule may be suspended at any meeting of the Association, by a two-thirds vote.

16. These Rules of Order shall also, as far as possible, apply in Committee of the whole.

ORDER OF BUSINESS.

The following shall be the Order of Business at the Annual Meetings:—

- 1st. Meeting opened with prayer.
- 2nd. Roll of Officers called.
- 3rd. Reading of Minutes.
- 4th. Reading of Communications.
- 5th. Reports of Committees.
- 6th. Receiving of Delegates.
- 7th. Discussion of topics announced in the annual circular.
- 8th. Discussion of topics submitted by Branch Associations.
- 9th. New Business.
- 10th. Election of Officers.
- 11th. Closing Business—Time and Place of next Meeting.
- 12th. Adjournment.

The Association may at any time, by a majority of votes, alter the Order of Business.

NOTE.—The Evening Sessions shall be devoted to the hearing and consideration of Essays, Addresses, Readings, and practical Illustrations of Modes of Teaching.

The following Report forms a part of the Constitution:—

The Committee on Union met according to appointment, and, after discussing the various points brought under their notice, decided upon the following report:—

1st. That the Societies lately known under the names of the "Ontario Teachers' Association" and the "Ontario Grammar School Masters' Association" be united, under the name of the "Ontario Teachers' Association."

2nd. That the Association shall have three different sections, representing respectively, 1st, Teachers in High Schools; 2ndly, Inspectors; 3rdly, Public School Teachers.

3rd. That, in all subjects pertaining to education generally, the Association shall act as one body, both in discussing and deciding upon such subjects.

4th. That subjects pertaining specifically to any one or two of the sections mentioned in the second clause, shall be discussed by the members of all sections, but that the decision of the subject shall rest alone with the section or sections particularly interested.

5th. In the event of any dispute regarding the clause in which any specified subject may be included, the decision shall be made by a majority of the Board of Directors present, and such decision shall be final.

6th. That there shall be three Standing Committees, corresponding to the three sections mentioned in the second clause, and that the composition of the Committees shall be as follows:

(1.) High School Committee, consisting of four High School teachers, and one member selected from either of the other two sections.

(2.) Committee of Inspectors, consisting of four Inspectors and one member selected from either of the other two sections.

(3.) Public School Committee, consisting of four masters of Public Schools and one member selected from either of the other two sections.

7th. That, in case of any sudden emergency necessitating prompt action on the part of any of the sections mentioned in the second clause, the President of the Association, on the written application of at least two members of the Standing Committee for such section, shall call a special meeting of the Committee for the aforesaid section; and in the event of the President refusing or neglecting to call such meeting, the Committee, or a majority of the Committee, shall have full power to meet at the call of their chairman and to take action upon the subject so specified.

MINUTES
OF THE
TWELFTH ANNUAL CONVENTION
OF THE
ONTARIO TEACHERS' ASSOCIATION;

HELD IN THE THEATRE OF THE NORMAL SCHOOL BUILDINGS,
ON TUESDAY, 6TH AUGUST, 1872.

In the absence of the President, the Rev. Principal Snodgrass, of Queen's College, Kingston, the First Vice-President, Edward Scarlett, Esq., Inspector of Public Schools, Northumberland, took the chair, at 3 o'clock in the afternoon.

J. R. Miller, Esq., at the request of the Chairman, read a portion of Scripture, and engaged in prayer.

The Roll of Officers was called by the Secretary.

The Secretary read a communication from Principal Dawson, McGill College, Montreal, in which the Principal explained his inability of reading a paper before the Convention this year;—also a letter from the President, in which he stated that owing to previous engagements, he was unable to be present at the Convention for this year.

On Reports of Committees being called—

Mr. McMurchy, on behalf of the Incorporation Committee, verbally reported the steps taken during the year, and explained why the Act of Incorporation had not been asked for.

Moved by Mr. J. B. McGann, seconded by Mr. John Campbell,

That Messrs. A. McMurchy, A. Macallum and William Anderson, are hereby reappointed to attend to the matters connected with the Incorporation of the Association.—Carried.

Moved by J. R. Miller, Esq., seconded by Mr. David Johnston,

That the hours of meeting during the present session of the Association be from 10.30 a.m. to 12 m.; from 2 to 5 p.m.; and from 7.30 p.m. to adjournment; excepting that on Thursday the Association assemble at 10 o'clock in the morning.—Carried.

On the next item of business being announced, Mr. Macallum moved, seconded by Mr. J. C. Brown, that the order of business be changed.

In amendment, it was moved by Robert Alexander, seconded by Mr. D. Johnston, that the order of business be adhered to. — The amendment carried.

EVENING SESSION.

Mr. Edward Scarlett, First Vice-President, in the chair, who introduced the Rev. Dr. Ryerson as the speaker of the evening.

The Chief Superintendent proceeded at once to deliver an instructive and interesting address; at the conclusion of which Mr. Harrison, Inspector of Public Schools (Kent), moved, and Mr. A. Macallum, M.A. (Hamilton), seconded a most cordial vote of thanks to the Rev. Dr. Ryerson for his able and interesting address.—Carried.

The subject of "Technical Education" (Topic No. 2, on the Annual Circular) was introduced by J. H. Hunter, M.A., Principal, St. Catharines Collegiate Institute, by reading a most exhaustive paper on the subject. A cordial vote of thanks was tendered Mr. Hunter, moved by Mr. J. B. Somerset, seconded by Mr. J. R. Miller.

MORNING SESSION.—7th August.

The Association met at 10.30 a.m., First Vice-President in the chair.

At the request of the Chairman, the Rev. Mr. McKee (Simcoe) opened the session by reading a portion of Scripture and prayer.

Minutes of last day's business read and confirmed.

The first subject on the programme of business for the session was the discussion of the Essay on Technical Education, read by Mr. Hunter.

The discussion was carried on by Messrs. Hunter and Macallum, when Mr. Somerset moved, seconded by Dr. Comfort,

That in the opinion of this Convention, the Natural Sciences should be introduced into our Public Schools, and faithfully taught and illustrated by means of *Object Lessons*.

The resolution was discussed by Messrs. McGann, Cameron, Miller, Fotheringham, Glashan, Munroe, Alexander, McAllister, Knight, William Johnson and McIntosh, when it was put to the meeting and carried.

A communication was read from the Deputy Superintendent, enclosing a copy of a letter from William McCabe, LL.B., offering a *Gold Medal* for competition by the candidates for first-class certificates of qualification as Teachers, at the July Examination in 1873.

On motion of J. R. Miller, the communication was received.

AFTERNOON SESSION.

First Vice-President in the chair.

The Secretary read the Report of the Board of Directors, in reference to the Petition ordered to be circulated, anent the Superannuation Fund.

The Report was received and adopted.

Mr. David Johnston moved, seconded by Mr. Henry Dickenson,

That in the decided opinion of this Association, the clause of the School Act of 1871, which relates to the Superannuation Fund, should, in compliance with the wishes of the great majority of the Public School Teachers, expressed through the medium of their various Local Associations, be repealed.

A very animated discussion arose on the motion, several contending that it would be wiser to seek for modifications of the Act than its repeal. Dr. Hodgins, the Deputy Superintendent of Education, was invited to give explanations in regard to the Fund. The Deputy addressed the Convention, explaining fully the management of the said Fund. The motion was carried.

EVENING SESSION.

First Vice-President in the chair.

Professor Robins, McGill Normal School, Montreal, most ably addressed the Convention, taking for his subject "The mode of inspecting Schools." On motion of J. H. Hunter, seconded by A. Macallum, a very cordial vote of thanks was given to the speaker for his practical address.

The topic, "Higher Education of Women," was introduced most eloquently by Mr. Richard Lewis. Mrs. E. Stowe (Toronto) moved, and Miss Sherlock (U.S.) seconded, that the thanks of the Association be given to Mr. Lewis for his Essay.—Carried.

MORNING SESSION.—8th August.

The Association met at 10 a.m., First Vice-President in the chair.

The session was opened by the reading of a portion of Scripture, and prayer by the Rev. Mr. McKee, of Simcoe.

The minutes of the previous day's proceedings were read, and approved after the addition of a note explaining that only Public School Teachers voted on motion regarding the Superannuation Fund.

On motion of Mr. Johnston, seconded by Mr. Alexander, a vote of thanks was unanimously tendered to Dr. Hodgins for his explanations regarding the Superannuation Fund.

The Treasurer, Mr. McAllister, presented a Statement of the Finances of the Association, which showed the total receipts for the year to be \$135.93, and expenditures \$76.95; leaving a balance on hand of \$58.98, of which \$52.94 was on deposit.

On motion of Mr. McAllister, seconded by Mr. Alexander, the Report was received and adopted.

The Chairman named Messrs. Hunter, Johnston and McIntosh as an Auditing Committee.

Moved by Mr. Anderson, seconded by Mr. Johnston,

That Messrs. Hunter, Strang, Smith (Wentworth), Platt (Picton), Miller, Watson, and the mover and seconder, be a Committee to nominate Officers and Standing Committees for the ensuing year.—Carried.

Mr. McAllister introduced the topic, "The new Regulations and Limit Tables for Schools," by reading an able paper on the subject.

Mr. Fotheringham moved, seconded by Mr. McGann, that the thanks of the Association be tendered to Mr. McAllister for his valuable Essay.—Carried.

The topic was then discussed freely by the members; Dr. Crowle and Messrs. Payne, Kirkland, Deerness, Glashan, Munroe, Hunter and McIntosh taking part in the debate.

AFTERNOON SESSION.

The debate on the Regulations and Limit Tables was resumed by Mr. Fotheringham, who was followed by Messrs. Alexander, Macallum, Glashan, McKinnon and McAllister, who closed the debate.

The Report of the Committee for the nomination of Officers and Standing Committees was presented by Mr. Hunter.

The following gentlemen were nominated by the Committee:

President—Prof. Nicholson, University College, Toronto.

Vice-Presidents—Messrs. R. Alexander, E. B. Harrison, J. H. Hunter, M.A., D. J. Johnston, G. D. Platt, and Dr. E. Crowle.

Treasurer—Mr. Samuel McAllister.

Recording Secretary—Archibald McMurchy, M.A.

Corresponding Secretary—Thomas Kirkland, M.A.

Councillors—Messrs. McIntosh, Macallum, Glashan, Watson and Anderson.

Standing Committees. — High Schools: Messrs. Hunter, Strang, Tamblyn, Anderson and Miller. Public Schools: Messrs. Alexander, Lewis, McAllister, McCuaig and Smith.

Inspectors—Messrs. Miller, Fotheringham, Scarlett, Macallum and Turnbull.

After considerable discussion as to the propriety of changing the custom, hitherto followed, of electing as President a gentleman who is not a member of the Association, the nominees of the Committee were unanimously elected.

Mr. R. Alexander was appointed Delegate to represent this Association at the next meeting of the Quebec Protestant Teachers' Association, Mr. J. R. Miller to be an alternative.

The Business Committee wished to state that they were not to blame if any member had not received intimation of the time of the Annual Meeting.

Mr. Hunter read and moved the adoption of the following Report of the High School Committee:

That the Provincial Teachers' Association would respectfully urge upon the early attention of the Legislature the complete reconstruction of the Council of Public Instruction upon a representative basis; and that the Association would further urge the importance of the following provisions:— 1. That the Council include one or more properly elected Representatives of the following classes: Masters and Teachers of Collegiate Institutes and High Schools, Masters and Teachers of Public Schools, and Inspectors of Public Schools. 2. That the Representatives of the several interests shall return to their constituents for re-election at intervals of time not exceeding three years. 3. That full reports of the Council's proceedings be published in the *Journal of Education* after each meeting, the various resolutions and amendments proposed having appended thereto the names of the movers and seconders, and the yeas and nays in every division properly recorded. 4. That an allowance for attendance and mileage be granted out of the Provincial Treasury to non-resident members of the Council.

After considerable discussion as to the propriety of urging this matter on the Legislature, apart from the Incorporation of this Asso-

ciation, the Report was referred to the Committee on Incorporation. Messrs. Hunter and Alexander were added to that Committee.

Mr. Alexander read the Report of the Public School Committee, the discussion of which was postponed till the evening session.

Mr. Hunter reported, for the Auditing Committee, that the books of the Treasurer were correctly and carefully kept.

The report was adopted, and the meeting adjourned.

EVENING SESSION.

The debate on the Public School Committee's Report was resumed. After considerable discussion, the general tendency of which was to condemn any change at present in the text-books which could be avoided, the 5th and 6th clauses of the Report were adopted. These clauses are as follows:

"That a Standing Committee of this Association be appointed, whose duty it shall be to examine the present authorized text-books, and suggest any improvements in such; and further, that all new text-books be brought under their supervision, funds being placed at their disposal to enable them to carry out in an efficient manner such duty.

"That in the opinion of your Committee, some mode of apportioning the Legislative Grant should be devised, that would influence the increase of the salaries of Teachers."

A vote of thanks was tendered to the Chairman and members of the Committee who prepared the Report.

It was moved by D. J. Johnston, seconded by H. Dickenson,

That Messrs. Hunter, Campbell and the mover be a Committee to wait on the Attorney-General, and represent the views of the Public Schoolmasters regarding the Superannuation Fund, as expressed at this Association.—Carried.

The meeting then adjourned till 10 a.m. to-morrow.

MORNING SESSION.—9th August.

The Association met at 10 a.m., First Vice-President in the chair.

At the request of the Vice-President, Mr. Johnston opened the meeting by reading a portion of Scripture, and prayer.

The minutes of the last day's proceedings were read and approved.

At the request of a member, the Secretary explained the method adopted of intimating to members the time at which the Annual Meeting was to be held.

Moved by Mr. Campbell, seconded by Mr. Somerset,

That notice of the Annual Meeting should be once inserted in the principal daily and weekly papers at least one week before the meeting.—Lost.

Mr. Anderson moved, seconded by Mr. Glashan,

That the following members constitute the Standing Committee on Text-Books for the ensuing year:—Messrs. Kirkland, Hunter, Strang, Brebner, Lewis, McAllister and the mover and seconder.—Carried.

The reception of Delegates from Local Associations then took place. The following are the names of the several Delegates appointed:—Rev. J. D. O'Meara, Brant; Dr. Comfort and J. H. Hunter, M.A., Lincoln; H. Montgomery, East Durham; J. Turnbull, B.A., Huron; H. Dickenson, Galt; G. Moir, St. Mary's; J. Johnston, South Hastings; A. Hay, Shakspeare; E. Scarlett and Mr. McIntosh, Northumberland; Mr. Spotten, Toronto; Mr. Blackwood and Mr. Bell, West Middlesex; Dr. Crowle and G. D. Platt, Prince Edward; W. W. Tamblyn, West Durham; Mr. McQueen and A. Macallum, M.A., Wentworth.

As many of these as were present addressed the meeting, giving interesting statistics regarding the numbers and success of the Local Associations, and also their opinions on the various topics discussed by this Association. From the records given, it was concluded that the number of Teachers represented was over one thousand.

Mr. Campbell referred to the increase of the Legislative Grant, and Mr. Lewis gave some statistics regarding the salaries of Teachers in England.

The meeting adjourned till 2.30 p.m.

AFTERNOON SESSION.

The Association met at 2.30, the First Vice-President in the chair.

Mr. Kirkland gave a short address on Normal Schools, in which he brought up for discussion the following important Resolutions:

1. That as teaching is a Profession, its members require professional training; and that no Teacher should receive a certificate who had not received such training.

2. That one or more Normal Schools should be established in the Province as soon as possible.

3. That besides the Normal Schools, there should be in each county or inspectorial district a Model School, where candidates for third-class certificates might receive some training under the supervision of the Inspectors.

4. That Scholarships should be established in each Normal School, as in the Provincial University.

5. That High School Masters should be compelled to pass an examination on the methods of organization, teaching, &c., in addition to their obtaining a degree; and that therefore a Lectureship should be established in the Provincial University, to assist them in obtaining the necessary knowledge.

These subjects were freely discussed, the majority of the members agreeing with Mr. Kirkland's views on the subject. A vote of thanks was tendered to Mr. Kirkland for his address.

During the discussion on Mr. Kirkland's address, Dr. Ormiston (New York) entered the room, and, at the unanimous request of the members present, briefly addressed the Association. A cordial vote of thanks was tendered to the Rev. Doctor for his interesting address.

As no Report was received from the Inspectors' Committee, Mr Fotheringham moved, seconded by Mr. McAllister,

That in the opinion of this Convention, the School accommodation required by the new School Law and Regulations is under rather than over that demanded by the health and comfort as well as the proper organization and discipline of Schools.—Carried.

It was then moved by Mr. Anderson, seconded by Mr. Brown,

That Messrs. Kirkland, McMurchy, Fotheringham, Lewis and the mover and seconder be a Standing Committee to take into consideration questions directly connected with Normal Schools.—Carried.

A cordial vote of thanks was then tendered to the First Vice-President for the kind and able manner in which he had conducted the meetings.

It was then moved by Mr. Miller, seconded by Mr. Johnston,

That the thanks of this Association are due to the Chief Superintendent of Education for the use of the building on this occasion; to the representatives of the *Globe*, *Leader* and *Mail* for their reports of proceedings; to the Managers of the Grand Trunk, Great Western, Northern, and Toronto and Nipissing Railways, for their kindness in granting return tickets to members at reduced rates; and to the members of the Association residing in Toronto for the great amount of work they have voluntarily performed for the Association.—Carried unanimously.

After a few closing remarks from the Chair, the National Anthem was sung, and the Association adjourned.

ARCHIBALD McMURCHY,

Secretary.

PAPERS READ BEFORE THE ONTARIO TEACHERS' ASSOCIATION.

TECHNICAL EDUCATION.

BY J. HOWARD HUNTER, ST. CATHARINES COLLEGIATE INSTITUTE.

In highly educated communities, it has been well observed, "A man must be capable of doing many things as well as any man, and also some one thing better than most men." The specialized instruction which leads to the latter of these results is now popularly described by the phrase, Technical Education. In our time vast indeed is the area of general knowledge, which every well-informed man is expected to traverse before directing his steps into particular fields of investigation. So prolonged an attention was formerly paid to the acquisition of the simplest instruments of knowledge—Reading, Writing and Arithmetic—that life proved too short, or business too exacting for the acquisition of any more powerful instruments, or even for the higher applications of that rudimentary knowledge. Among the more educated, any further advance generally proved to be mechanical Reading or Writing or Computation in some foreign tongue, and preferably in the Latin. The average youth of the pre-scientific age (which has not yet quite expired) spent his toil in amassing materials for a structure, the very foundations of which were seldom to be laid; for not a few of the wise mistook mere building materials for the building; mistook the mere instruments of knowledge for knowledge itself. The world in which we live is generally conceded to be a more enjoyable one than that of our fathers, and much more so than that of our grandsires. Life is noticeably longer and is less obnoxious to the inroads of disease. Man still earns his bread by toil, but by toil less exhausting and degrading than formerly. How much physical agony has been rendered avoidable, or, where it is still unavoidable, has been alleviated! Instead of regarding himself as the helpless victim of inexorable laws, man has come to recognize the wisdom and beneficence of the established order of the universe. This natural knowledge is surely of transcendent importance. At what age shall we begin to impart it to our children?

Provided we begin aright, we cannot begin too soon. I am glad to observe that in England the Royal Commission on Scientific Education have, in their recent report, strongly advocated scientific instruction even in the primary schools, not of course by scientific catechisms, but by means of familiar and genial lessons derived from natural objects, and if possible illustrated by experiments. More than this, I fear the vast

majority of *our* Public Schools in Ontario, will, under the great pressure of other work be unable to accomplish. And even to take this first and obvious step our teachers must have acquired some practical acquaintance with scientific observation and experiment. In the answers to the questions on Chemistry given at the recent Teachers' Examinations I noticed a strong tendency to mere lifeless verbalism and cramming—the very evils which genuine scientific knowledge is calculated to counteract. This tendency cannot be overcome by any text-book, however excellent; it may be greatly discouraged by a peculiar style of examination; but the true remedy is to place materials and apparatus within the easy purchase of teachers, so that they may thoroughly fortify themselves for the illustrations of the school-room by oft-repeated experiments and probably frequent breakages at home. It is obvious also that marked official encouragement and assistance should be shown to those teachers who persevere in so valuable a system of instruction. Whenever we can secure for our Public Schools, teachers who thus bring to their work good natural powers quickened and exalted by assiduous observation and experiment, we shall see laid broad and deep in the minds of our youth a foundation of intelligence on which more specialized knowledge will afterwards appropriately rest.

When our youth enter the High Schools, it then, if not before, properly becomes their duty to decide on their future occupations; to decide whether they shall hereafter be hand-workers or brain-workers, for fortunately in Canada all men must work. Instruction ought accordingly to become at this stage somewhat specialized. While all should receive a general, but accurate, training in practical science, and while all should likewise receive a general literary culture, the hand-workers ought evidently to be brought into frequent contact with those forms of matter, and those forces of nature which in future years they will have to utilize for industrial purposes. On the other hand, the brain-workers, who will have to mould mind rather than matter, and who will have to guide social rather than physical forces, will properly seek in Literature and History for the springs of human action. To accomplish even so slight a specialization of studies in the High Schools, we shall require to practise the most penurious economy of school-time. The masters must evidently not have their precious hours wasted on capricious and conflicting programmes of study. When the recent School Bill became law, I indulged the hope that the various universities and learned corporations of our Province would gladly adapt themselves to the High School Act, and would reflect the enlightened views of the Legislature regarding modern culture; that the various entrance examinations would be completely harmonized; that classical instruction, which has at present a practical monopoly of school-time, would become less exacting. It cannot be too clearly understood that, before any effective teaching of practical science can be witnessed in our High Schools, the two latter of these conditions must be fulfilled; and I trust that in order to give real effect to the provisions of the High School Act, the Legislature will compel the re-actionists to wheel into line. I am induced to make these observations by a perusal of the new matriculation issued by the Law Society of Ontario. Hereafter, it seems, will be required of intending students-at-law a knowledge of five Latin books, four of which are not at present required, and the fifth is rarely

required for any other examination in this Province. Now, in the larger High Schools there will on the average be found one pupil desirous of studying law. The Law Society then virtually compels a class to be instituted for this student's benefit in each of those Latin books, and by doing so compels the master in so far to neglect the rest of the school. With so wanton a waste of time and energy—both already overtaxed—what hope is there of ever seeing scientific instruction in our High Schools? Let us consider the matter for a moment on its own merits. Do the Benchers of the Law Society desire to secure in legal students a knowledge of the style of particular authors; or do they desire a certain acquaintance with the Latin language? In either case does not the 2nd Book of Virgil's *Æneid* represent the poet's style as faithfully as the 6th? Does not the 1st Book of Horace's *Odes* exhibit his fancy and his foibles as well as the 3rd? Is not Cicero as eloquent and convincing, when speaking for the Bill of Manilius as when defending Milo? Now the former works of these authors are *universally* read in the High Schools; the latter rarely or never. But the question is well worth pursuing still further. The supposition on which this Law Matriculation is based is that at this stage the extra-professional studies of the student terminate; that hereafter technical legal studies must engross his attention. Yet the student is not required to know a modern language, not even a language so rich in legal treatises as the French, the language moreover spoken by nearly one-half of the population of the Dominion. Nor is the student required to have even heard of Chemistry. No inquiry is made at his entrance or subsequently whether, if a scientific industry formed the subject matter of the trial, the future advocate would in any degree understand scientific evidence; it is not thought worth while to inquire whether, as a possible judge, he would be qualified to detect the grossest fallacy in an analysis, which may send to a shameful doom an innocent accused. Better surely a thousandfold that our law students knew something of Chemistry and nothing of Latin, than that they should know everything of Latin and nothing of Chemistry. In truth under this illiberal and purely conventional system of education the professional class would rapidly become the inferiors of those supposed to apply to them for advice.

With such incidental knowledge of Technology as he may have been able to acquire in the schools or universities, the hand-worker has hitherto in this country been compelled to content himself. It is not surprising, therefore, that Canadians are almost mere hewers of wood and drawers of minerals for the nations. Better surely that our lumber went abroad in the form of merchant ships, and that our iron-ores were exported in the form of Bessemer steel. Much has been lately said about "Protection;" but assuredly the best protection of all consists in the superior finish and the intrinsic value of those manufactures which proceed from the hands of trained operatives. A brighter day is now apparently dawning.

The great classes for whom, in Ontario, higher Technological Education is about to be provided, are our Agriculturists and our Operatives. For the former class the College of Agriculture has been projected; for the latter class has been provided the College of Technology. The chief questions which here demand consideration are, first, the connection or non-connection of these institutions with existing establishments; secondly, the general administration of these technical institutions.

As regards the Agricultural College, the foundation of such an institution having been once determined on, it seems to be generally agreed that it should, in its administration, be isolated from all existing establishments. The President of the Agricultural and Arts Association (Ontario) did but express a predominant feeling when, after citing the case of Cornell University, he recently said, "Experience has taught us that it is better to have an Agricultural College quite separate from other educational institutions." Faculties in agriculture have been attached to many institutions, in some cases for very many years, —Edinburgh has had an agricultural chair for eighty years,—but in the great majority of instances the result of the experiment has either been purely negative, or absolutely unfavourable. The Provincial University of Ontario has itself witnessed such an experiment, but the result was certainly not such as to warrant the further maintenance of the agricultural chair. On the other hand, agricultural colleges, when isolated, have, under fair management, frequently yielded most valuable results. As an example worthy of attention, we have in the English county of Gloucester, and almost within the shadow of the Cotswold Hills, the Royal College of Agriculture. Here, about a mile and a half from the small town of Cirencester, some hundred youths practise scientific husbandry on a loamy soil well limed by nature and well fertilized by art. Of late years we have heard much of Cotswold sheep, and of the produce of Gloucester dairies; and this great progress of the county in agricultural pursuits is largely attributed by local authorities to the Agricultural College, which still, in spite of insufficient means, continues its operations. As a type of independent agricultural education on the very largest scale, we have the system of Würtemberg, a kingdom possessing almost precisely the same population as Ontario, though not a twentieth of Ontario's area. There, at Hohenheim, a hamlet reposing in the fertile and picturesque valley of the Neckar, and some six miles away from the busy Stuttgart, we find the Central Agricultural College of Würtemberg, with a staff of *twenty-one* professors and masters. Subordinate to it are three Agricultural Schools, which are dispersed throughout the kingdom, and by this machinery no less than 12,000 pupils are provided with instruction in agricultural science. Würtemberg is, except where it lies in the basin of the Neckar, by no means favored by nature in respect of soil, but applied science has largely made good natural deficiencies, so that there is always available for export a large surplus of agricultural produce. Land still unreclaimed is made to supply innumerable hives of bees with abundant nectar; and where the churlish soil has refused to yield a harvest of even wild-flowers, the Government has provided for clothing with hardy forest trees the bleak hills to their very crests.

Regarding the administrative isolation of the Ontario College of Technology, some variance of opinion may very naturally exist. Dogmatism would manifestly be most inopportune where no large stock of precedents has yet accumulated. The question was at one time very properly thrown out for discussion, and might, in the earlier stages of the matter, have been very properly discussed, how far the scientific training of our operatives could be met by the establishment of special classes at Toronto University. Here Provincial experience is not available for our guidance, and for precedents and illustrations we must rather have recourse to the British Isles and to the European Continent. In 1855 the English Govern-

ment instituted in Edinburgh University the new chair of Technology, and appointed as professor Dr. George Wilson, who continued, until his lamented death, to illustrate most ably the application of recent chemistry to arts and manufactures. University soil, however, does not appear to have proved more congenial to such studies at Edinburgh than elsewhere; for the chair of Technology has already disappeared from the Calendar; and the vast field of chemical science has been relegated to the single chair of general chemistry which was founded in 1713, when the science was in merest infancy. It is also a most significant circumstance to find, in 1867, after the pitiful appearance of England at the Paris Exhibition, Dr. Lyon Playfair, then the occupant of this very chair of general chemistry at Edinburgh, becoming the apostle in Britain of the Continental doctrine of isolated technical education. Dr. Playfair had, from the time of his official connection with the great Exhibition of 1851, made this question of industrial education the subject of unremitting attention; in 1853 he had accurately predicted * the results afterwards experienced by England in 1867; he had present to his mind the technological experiment recently tried in his own University, and he must be held a competent witness on the capability of universities to grapple with technical education. Hardly less conspicuous in this new educational movement has been the eminent naval architect, Mr. J. Scott Russell, who probably has had better practical opportunities of maturing an opinion on this subject than any other writer of the century. Mr. Russell, as he himself informs us, "has enjoyed the privilege of university education, and the still higher education of the work-shop." He has been distinguished as a lecturer on Natural Philosophy, and, in later years, he has had a chief share in launching the great London Exhibition of 1851, and the "Great Eastern" steamship of 1858. He has been much on the Continent of Europe; has taken minute notes of its educational systems; has had in his employment pupils trained in its technical schools; and he is therefore in the highest sense qualified to grapple with the question we are noticing. The limits of this essay forbid even a condensed view of his arguments, but his strongly expressed conclusion is that technical institutions of all kinds should be independent and new institutions.

Crossing the Strait of Dover in quest of examples, we find the rule of isolation uniformly observed. In France the great technical schools are the *Ecole Centrale des Arts et Manufactures*, situated at Paris, and the *Ecoles des Arts et Métiers*, situated respectively at Aix, Angers and Chalons. These great schools for the highest strata of the operative class—for future managers and manufacturers—are subject to the direct supervision of the Government, and are quite independent of the universities; indeed they constitute true universities to the inferior trade schools. These latter are plentifully scattered throughout all the centres of industry. Creusot, whose wonderful hive of 10,000 iron-workers has taken from England much of her former prestige, is thickly studded with highly-specialized technical schools, which recognize a subordination to no educational institution except the industrial universities above mentioned.

Passing over the Jura, we have an inland lake-country, like our own Ontario, Switzerland, whose boast it is that of all European states, its

* "Industrial Education on the Continent."

educational budget alone exceeds its military expenditure; and that, while England spends many times as much on pauperism as on education, Switzerland spends many times as much on education as on pauperism and crime. At Zürich, among a very forest of literary institutions, we find, as the growth of the brief years since the great Exhibition of 1851, the magnificent Polytechnic University, with its staff of *sixty* professors. Hither often resort students from Britain for that education which their native land has hitherto denied them.

I have above noticed how much Würtemberg has done for agricultural education. In no respect less liberal and complete has been its provision for the scientific training of the operative classes. In its Polytechnic University, Stuttgart possesses a pile hardly equalled for architectural magnificence among the educational institutions of Europe. With a liberal hand have there been provided for the Würtemberg youth laboratories, physical and chemical; an observatory; machine shops, museums, botanical gardens. Nor, when recently called away from these delightful haunts of science to the "Watch along the Rhine," did the young Würtembergers prove ungrateful to the Fatherland that had done so much for them. After that awful day of Wörth, it was a proud distinction to carry a rifle in the Würtemberg corps.

And now, returning to Ontario, our first emotion will, perhaps, be one of discouragement that we are so late in beginning, and that we are beginning on so small a scale. Still it is much to be able to say that we *are* beginning. The great consideration will now be to begin effectively. The number of professors attached to each of these new technical institutions must be at first necessarily small. I suppose, however, that we may take it for granted that, in the Agricultural College, the following subjects will receive distinct recognition: Agriculture, Chemistry, Natural History, the Veterinary Art. It would be exceedingly important to both limit and subdivide the subject of Natural History. The professor of Botany might be understood to discuss his subject from a Canadian point of view; to thoroughly drill his students in our much-neglected native flora; to discuss with some detail the subject of Forestry,—a science which hitherto has been wholly neglected in Ontario. The Zoological professor would in the single subject of Canadian Entomology find ample scope for observation and research. The immense area occupied by Comparative Botany and Comparative Zoology might be much more advantageously traversed in the lectures, and illustrated by the Museum of University College. It is well known to those who have paid any attention to American Botany that certain pestilent exotics are being constantly brought over to this continent in the ballast of sea-going ships and in foreign seeds, and that, year by year, these troublesome weeds are advancing westwards, but our farmers, through ignorance of our native flora, are unable to recognize the intruders. Thus many a crop of dragons' teeth is being stealthily sown. Then, a season ago, our western frontier was unceremoniously invaded by a new insect enemy, the full range of whose destructive power time alone will reveal. The great advantage of enabling skilled naturalists to give special attention to the investigation of such questions will be obvious to all, and the benefit to the agricultural interests of the Province is not for one moment to be weighed against the payment, in the new College, of two salaries instead

of one. As regards the College of Technology, if the amount (\$5,000) set off for salaries in the Estimates be adhered to, certainly not more than two subjects can be thoroughly and *independently* taught. From the extensive application of Chemistry and Mechanics, these would almost necessarily become the first subjects of instruction. To the former chair a laboratory assistant would be indispensable; with the chair of practical Mechanics would be very advantageously associated a teacher of Design and Mechanical Drawing,—the services of the drawing master to be available for evening classes. This would rather more than quite exhaust our \$5,000. Special provision should be added for the training of operatives by means of evening classes in Mathematics, though the increasing efficiency of our schools may be expected soon to render unnecessary such temporary help. These new Technical Institutions ought to be virtually free, so that there may be an unbroken continuity with our School system; for to a large number of our youth these institutions will hereafter become the appropriate universities. If an intelligent young farmer or operative desires to get some insight into applied science, and gives up for the time profitable employment, this is surely on his part a sufficient sacrifice, without diverting his poor savings towards the payment of class-fees. The establishment also of a few exhibitions in Agriculture and Technology would doubtless be found to exert in Ontario the same healthful influence that Sir Joseph Whitworth's thirty exhibitions are now exerting in England. It would even be found an excellent national investment to bestow on technical students of special promise travelling scholarships, and so afford them an opportunity of introducing improvements of foreign manufactures. There are two obvious ways of increasing national wealth: (1) increasing through the agency of immigration the *number* of industrial citizens; (2) enhancing by scientific culture the labor of the *present* industrial population. Switzerland, which of late years has enormously increased her national wealth, depends wholly for her advancement on increased culture; we, on the other hand, have hitherto depended almost wholly on immigration. Evidently the best results are to be obtained from the concurrent operation of the two agencies. Modern science fulfils the dream of the ancient fabulist, and, by its touch, converts all things into gold. To select one example from a thousand, the French potter takes into his hand a rude lump of clay, and by his skill and taste creates national wealth, by creating a thing of beauty which foreigners vie in purchasing, and which no protective tariff will banish from boudoirs and parlors. Now why not enable some of our quick-witted youth to visit Sévres and Limoges, there to catch the artistic inspiration? It is far from improbable that in our extensive gneissoid strata we may find ready to our hand that kaolin which in the hands of the potter may become precious porcelain. We often reproach the Orientals with inertia, but in such matters as I have been discussing we may now profitably take a lesson from even the Japanese. The complaint, too, has often of late been bitterly made that our Ontario youth *will* neglect agricultural and mechanical occupations for the already over-crowded professions. But what have we hitherto done to ennoble or to render attractive those neglected occupations which all acknowledge to be essential to our national existence? Surely the fault has not been *altogether* with our youth. Is it unreasonable in them

to rate certain favored professions at the same standard as the Legislature does? Education has by various enactments been in this Province most advantageously specialized for the intending divine, lawyer, physician, teacher, military officer,—and students are forthcoming at our Theological Colleges, at Osgoode Hall, at our Medical, Normal, and Military Schools. What if we now attempt to do the same justice to our agricultural and operative classes? Even granting, however, that these new institutions are thrown freely open to all who have received a tolerable elementary education, and granting that Exhibitions and Travelling Scholarships are established, can we induce our young men to attend? I answer that, if the teaching be of the proper quality, students will be readily found. But here we have by far the most difficult condition to satisfy. To get enough officers of the proper quality to man these two new adventures will occasion greater difficulty than may be anticipated. It would be comparatively easy to secure the services of men possessing the requisite knowledge; but how great a gulf separates the possession of knowledge from the communication of knowledge most of us who have attended either school or college can painfully testify. "I remember," says Mr. Scott Russell, "to have studied Mathematics under a professor who was a profound mathematician, and a practical idiot." Even in England science teaching is so impeded by difficulties of this nature that at a late meeting of the British Association it was proposed to insist in England as in Germany, on every newly-appointed professor serving a probationary year.

Now, to make our Technical teaching a real success, we shall require a dozen men or more who can divest themselves of all the pedantry and formalism of book-knowledge, descend to the level of an unscientific audience, and honestly grapple with the difficulties that beset the threshold of every science. Reading scientific lectures *ex cathedra*, to a cultured auditory is justifiable enough, though certainly not the better mode of teaching, but I greatly apprehend that an operative who can already in his broken English give a tolerably consecutive account of a machine or of a manufacturing process would hardly respect or thank a lecturer for reading to him in a monotone a desiccated description that is to be found in any late encyclopædia. Nor ought speculative science to be permitted to usurp the appropriate domain of applied science. The main function of Technical teaching is to place the students in immediate possession of the most valuable *results* hitherto attained; to describe lucidly the most expeditious, and at the same time *the cheapest* processes by which these results may be attained; to indicate where improvement may be expected or desired; to interweave throughout a felicitous exposition of the principles on which the described processes depend. In ordinary lecture-room experiments the cost of materials is not essential or relevant to the purpose of the lecturer; but where chemical science is to be applied commercially, the case is vastly different; here the cost of the process enters into the calculation as the principal factor. Where we want but a few cubic feet of oxygen for laboratory work, we resort to potassic chlorate, or manganic dioxide; but, to bring oxygen within the reach of the manufacturer, we must resort to DeMolay's or some similar process, and obtain our supplies from the atmosphere itself. So the ordinary laboratory process for the evolution of chlorine, will hereafter be super-

seded in bleaching works by the valuable invention of Mr. Deacon. If the technical student is to be a miner or metallurgist he must be shown not only the micro-chemical reduction of ores by means of blow-pipe fluxes, but he must have practically exemplified before his eyes the smelting of metals by agents which, if less effective, are vastly cheaper and more abundant. In short, the circumstances and the difficulties under which our future agriculturists and operatives will be compelled to labor ought as far as possible to be precisely reproduced in the experiments of our Technical institutions. All this discussion of cost and all this elaboration of detail would to the *general* student be needlessly discursive and insufferably wearisome; for his aim is simply to master the *properties*, not the applications of chemical agents. And even in the mode of chemical analysis there exists, I conceive, a very appreciable difference between the requirements of the technical and of the university student. Where the object is to arrive at the percentage composition of a substance under examination, the ordinary quantitative analysis requires frequent precipitations, weighings, filtrations, which even with the assistance of recent improvements are sufficiently tedious and require much skill in manipulation. But what our technical students require is some expeditious system of analysis, which even in unpractised hands will yield reasonably accurate results. These conditions we find satisfied in the newer or *volumetric* system of analysis. Many years ago the exigencies of French and English alkali dealers compelled a partial solution of this problem; and so originated the alkalimeters of M. Descroizille and Dr. Ure. By the labors of recent chemists, volumetric analysis has been so extended as now to cover nearly the whole area of ordinary manufactures. The older or *gravimetric* system must still be resorted to for the full analysis of complex mixtures; and its refined methods would be more advantageously studied and practised in the well-equipped laboratory of University College.

A word more. In the reformed Provincial University it is to be hoped that the Faculties of Law and Medicine will be restored to the position from which they have been most wrongfully deposed. Then in the work of general literary and scientific culture, and in the special training of students for the Legal and Medical professions, the University will have an immense domain to worthily occupy and cultivate. Let it not therefore from its palace walls cast wistful eyes towards the humble vineyard of Naboth; let it not grudge to the sons of toil their College of Technology.

INSPECTION OF SCHOOLS.

Professor Robins, Inspector of Schools for the City of Montreal, read a paper on Inspection of Schools, proposing such modes of conducting and recording examinations in Reading, Writing, Arithmetic, and Spelling, as should make it possible to compare schools with each other, though examined by different persons. In the introduction it was insisted that, where possible, examinations should be in writing for the sake of permanence and exactness; that the examination papers should have a defined character, so that in all essentials the examinations could be reproduced at any time with different examination papers, and that the results should be recorded by ages and sexes and not by classes, because systems of

classification differ, are not understood everywhere, and are but of local and temporary importance, while results by ages are of universal and lasting interest, and are intelligible to all, while results by sexes would help to settle some vexed questions respecting mixed and separated schools, at present argued, not on the ground of generally accepted facts, but of prejudice, or prepossession, or limited experience. The essayist continued thus:—The subject of Spelling is one of the least difficult properly to examine in. A dictation exercise must be provided. A passage from a book is necessary to test accuracy in the use of apostrophes, quotation marks, and capital letters; but no passage from a book, unless of inordinate length, could afford a sufficient variety of words to test the capability of advanced scholars. There should be also a number of selected words, mingling duly those of greater and less difficulty. The exercises I use are thus defined. First, a short narrative of one hundred familiar words, followed by fifty selected words, twenty being of one syllable, fifteen of two syllables, and fifteen of more than two syllables, half the selected words offering some special difficulty, the rest being of an ordinary character. The whole exercise to be read to the children without repetition, and so deliberately as to be completed in one half-hour. Every child that can write at all should have the opportunity of doing what he can; the very slow writers will consequently be obliged to skip some words, but this they should understand they are at liberty to do. Each paper should be signed by the writer, and his age at the last birthday recorded. In making up the results, every word correctly written is to be counted, but words containing indistinct letters are not to be taken as correct. The mode of deducing from these results the percentage of words that the average boy and girl of each age can write correctly is obvious.

Examinations in Writing are easily made: the relative proficiency of two children in the same school can be determined without much difficulty, but results cannot be recorded for want of recognized standards which, like those of weight and measure, could be appealed to, and by means of which results in writing could be definitely stated numerically. Good writing is: 1st, legible; 2nd, rapid; 3rd, beautiful. By common and by wise consent we drop rapidity out in estimating school writing. Now the beauty of writing can scarcely be estimated by minute examination. The general effect is of so great importance that the character of writing is determined almost at a glance, if standards for comparison be at hand. I propose then the preparation, by competent authority, of a set of standards in writing, about ten in number, rising by equal gradations from the poorest scrawl of beginners up to the best attainable writing. Let these be numbered from one to ten and distributed to all engaged in the examination of schools. Such a set of standards, facsimiles of actual writing, I have filed for the examination of the schools in Montreal; but desiring to compare our schools with others, I could wish to see a general set of standards arranged and published. Let each boy in a school copy a piece of print, attach to his copy his name and age and return to the examiner. The copy of any particular boy might be found not inferior to No. 7 of the standards but inferior to No. 8; that copy should be marked 7, and from the aggregate of copies so marked it would be easy to calculate the character of the average writing of a school or class, or of boys or girls of any age.

An examination in Arithmetic respects four points,—accuracy, rapidity, acquaintance with modes of procedure, and ingenuity in the invention and application of processes. If desired to estimate rapidity of work, a special examination must be arranged for. The remaining points have been met in my practice by preparing four sets of examination papers, with room for working the examples on the papers. The first contains one question each in notation, numeration, addition, subtraction, multiplication by one figure, multiplication by more than one figure, short division, and long division. The second paper embraces one question each in reduction descending, reduction ascending, compound addition, compound subtraction, compound multiplication, compound division, and one specially designed to test the ingenuity of the pupils. The third paper, on fractions, contains two in reduction, one in addition, one in subtraction, one in multiplication, one in division, and two in decimals, one being in some sort a puzzle. The fourth paper is on proportion and interest, and gives two questions in simple and one in compound proportion, two in simple and one in compound interest, and one of which the mode of solution must be discovered by the pupils. To these four papers I would, in some instances, add one upon the theory of Arithmetic. To each of them one half-hour is allowed, and every child who can solve any one of the questions on a paper is furnished with one. As these examinations are intended not to settle the position of individual scholars, but to compare schools with each other, only those which are correct are counted, most of the questions being made so simple that any child having knowledge of the subjects could solve the majority. No allowance is made for answers partially correct, because the just estimation of grades of error is a matter of extreme not to say insurmountable difficulty, and because returns made by different persons on any plan of allowance for errors cannot be compared. All answers are valued alike, because it is impracticable to assign values to examples varying proportionately to their difficulty, and even if practicable, he who missed a simple question ought to lose, at least, as many marks as he who is bewildered by a difficult one. This scheme of marking discourages the unfortunate practice of some students of wasting time over difficult problems until they have no opportunity of attempting the easy ones, and is the course to which an experience of many years, during which I have conducted some hundreds of examinations, and read many thousands of answers, has led me.

I come now to the most difficult subject of all—Reading. In reading two things are to be considered, acquaintance with words, and the ability to use aright pauses, emphasis, and intonation. The first point is readily estimated and recorded in various ways. I would recommend the furnishing to each child, apart from the rest, a printed list of words to be read from for one minute, recording the number correctly pronounced in that time. A suitable list for this purpose would contain one hundred words of one syllable, fifty of two syllables, fifty of three syllables, and fifty of more than three syllables. The mechanical reading of children could thus be accurately recorded. In respect to the second point I feel, after many attempts, that I must confess myself baffled in the attempt to record intelligibly to others, or even to myself after the lapse of time, with the precision which I desire, the intellectual character of any reading I may hear; chiefly for this reason, that intellectual power does not admit of measurement and tabulation.

By methods, such as are suggested above, the following facts, culled from the Report of the Montreal Schools for 1871, have been ascertained, and with the explanations given above can be distinctly apprehended. "In the Panet Street School the average girl of fourteen can write correctly ninety-three words in a hundred." "The average boy of fourteen in the British and Canadian Schools attains in writing the standard 7.3." "In the Royal Arthur School the average girl of fourteen, out of eight examples in the simple rules solves 7.5, in the compound rules 5.2, out of seven, in fractions five out of eight, and in proportion and interest 2.6 out of seven." "The average boy of fourteen in the Montreal Schools, in reading one hundred words will stumble over two or three, and mispronounce three or four." The paper concluded by alluding to some of the difficulties in the way of carrying into effect generally such a scheme, and briefly answering some objections to it.

ON THE GENERAL REGULATIONS AND LIMIT TABLE,
PRESCRIBED FOR PUBLIC SCHOOLS BY THE COUNCIL OF PUBLIC
INSTRUCTION.

BY SAMUEL M'ALLISTER.

I cannot say that I approached the preparation of this paper with unmingled pleasure. I knew that, to treat the subject properly, I would have a good deal to say that was unfavourable; and it is not pleasant to have to do this about the acts of the Power to which we have all to bow in educational matters. Indeed I wish we could imitate the pleasant fiction every loyal subject entertains about the infallibility of the ruling Power, and have some individual responsible for the acts of the Council, who might serve as a scape-goat. If we had our representatives in that body—and I hope the day is not far distant when we shall have them—we would have less difficulty in discussing its proceedings; for, besides being personally responsible to ourselves, it is to be presumed they would be men practically acquainted with the requirements of our schools, and at the same time of such wide culture that they could act on general principles.

The term, "General Regulations," is quite a misnomer, for in several instances they are ludicrously minute: take for example those referring to the duties of Inspectors. Indeed, towards this officer the Council assumes the character of a nursing mother, and he is carefully instructed in the way he should go from the moment he enters the school premises until he leaves them. A good many of his instructions would be very valuable as hints, but are quite out of place in a system of General Regulations. And what must be said of the way he is instructed to conduct himself to the teachers? Are all our Inspectors bores, that they have to be drilled in good manners by those in authority over them? One would think the standard of qualification for an Inspector would be a sufficient guarantee that he knew, not only how to examine a school, but also how to conduct himself in a school-room.

These Regulations certainly display a masterly knowledge of detail, and the drafter of them can at least claim the credit of viewing things with a microscopic eye; but I question the wisdom of impeding the action and fettering the judgment of Inspectors by so many petty injunctions.

There is a note on ventilation in the instructions to Inspectors that is unique in the profundity of ignorance it displays. It runs thus: "Ventilation becomes easy as soon as it is known that it is embraced in these two essential operations, viz.: 1st, to *supply fresh air*; 2nd, to expel foul air." Well! I am safe in saying that everybody knows this; therefore, to everybody ventilation is easy. I wonder how many, with this and much more knowledge, have found it so! I, for one, have not. But mark the sage observation that follows: "It is evident that fresh air cannot be crowded into a room unless the foul air is permitted to pass freely out; and certainly the foul air will not go out unless fresh air comes in to fill its place. It is useless to open ventilating flues when there is no means provided to admit a constant supply of fresh air from without." And thus the great problem that up to this time has puzzled intelligent architects is solved in a footnote. A person who can satisfy himself with such conclusions, based on such reasoning, will certainly not shorten his life by intense application of mind.

The ratepayers and Trustees are not forgotten; for they are thoroughly instructed in the mode of procedure at their school meetings. This, however, is a work of supererogation, so far as regards trustees; for they, as a body, have a weakness for doing that which is right in their own eyes.

I come now to the regulations bearing upon Teachers and their duties, and I am glad to say they conform more to the character of general regulations than any of the others. There is much in them that is good: for example, the statement of the causes for which scholars may be suspended or expelled; though the penalty for truancy—that of suspension for the remainder of the term—is open to several objections. Their arrangement, however, is faulty. Those prescribing the duties of teachers in general should stand first; then those peculiar to masters; and, finally, those bearing upon assistant teachers. As they stand, some unnecessary repetition is inevitable. For example, the instructions to teachers in general prescribe a certain course of discipline; those to assistant teachers prescribe another course.

It is to be regretted that the Council did not see fit to abolish the so-called half-yearly examinations altogether, rather than to make them quarterly. As examinations they are a mere farce, in spite of the precautions adopted in the Regulations. It would be much better that a quarterly examination should be conducted in the course of ordinary school work, and each half-year or year be closed by an exhibition consisting of recitations, singing, &c., as is at present done in the Model School.

The regulation having reference to the granting of certificates to Normal School students, makes no provision for sufficient professional training on the part of those that may secure them. It has happened that a student, at the end of one session, has secured the highest grade of certificate; but will any one say that one session's practice in the Model School, or even two, combined with as much theoretical knowledge as it is possible to acquire, is at all equal to the five years' work in school? I may be told, teachers are born, not made. I am willing to admit the first part

of this statement, but I have had too much evidence that they are "made," to accept the second; and I decidedly think that an attendance of at least two years at the Normal School for first-class certificates, and one for second-class, should be required from all students who have not taught before. It is only by experience in the school-room, and with many only by a *long* experience, that a teacher can learn to keep himself as well as his scholars under perfect control, and to exercise that tact in their management by which corporal punishment is reduced to a minimum or abolished altogether. It is only by actual experience that he can learn to economize the time in school so as to employ every minute to the best advantage,—a very important matter, now that there is so much more to do.

The change made in the vacations is quite an improvement for both teachers and scholars—particularly for the latter—as it should be. A resting time is now given at reasonable intervals, and of sufficient length, except in the summer vacation, to prevent any child, however delicate, from suffering on account of confinement or application in the school-room. "Jack" needs not be "a dull boy" now for want of play. The "long half," as they call it in England, is very judiciously divided by the week at Easter. But, in regard to the summer vacation, if the Council had been present in many schools, to see the spasmodic and often futile attempts at work during the sweltering days of last July, they would have been convinced of the wisdom of granting the same holidays to the Public as to the High Schools.

In concluding my remarks upon this part of my subject, I would just say, that should the drafter of these Regulations have any similar duty to perform in future, he would do well to keep Lord Bacon's advice before him: "Preserve likewise the rights of inferior places, and think it more honour to direct in chief, than to be busy in all."

If the Limit Table I have to speak of were permissive, or recommendatory, I would ask leave to be silent about it as a scheme utterly impracticable for the majority of our schools; but, as it is intended to be obligatory, it requires serious notice. In a paragraph preceding the Table the following words occur: "In all cases the *order of subjects* in the programme must be followed, and the time prescribed for teaching each subject per week must be observed." However impracticable it may be, it is evident the writer of this had the most serious intention of introducing it into every public school. I would like to know how far his purpose has been accomplished. To me it seems utterly out of the question. Take, for example, the table for the first class, in which the week's work occupies twenty-one and a half hours. If the time prescribed for teaching each subject must be observed, what is to be done with the remaining six or eight and a half hours? Again: the work of the fourth class is intended to occupy twenty-eight and a half hours. Now, if the time of attendance is less than this—as in many schools it is—the work cannot be done. There are very few schools in the Province so favourably situated as to be able to carry out this Limit Table in its entirety. I confess that even in Toronto, where we have a fair organization, it would be impossible to do it;—how much more, then, is this so in schools having only one teacher. Take for instance the most important subject, Reading. The time a teacher is required to devote to it in the first five classes is

twenty-eight hours, just about the available time for work in a week. Then what becomes of the other R's, not to speak of the remaining subjects, which we are told must not be omitted? I may be told this Limit Table does not apply to such schools. Then where is the one that does? There is not the most distant hint given in the Regulations, nor in the remarks preceding the Table, that it does not. The truth seems to be, that whoever drew the Table up took the Model School as a guide, and forgot or ignored the country schools altogether.

With regard to the arrangement of the subjects, and the time devoted to each, precedence, and I may say prominence, is wisely given to Reading, Writing and Arithmetic; but the time given to Spelling in the lower classes is not at all equal to what is required. My experience has been that it takes little less time than Reading itself to teach it thoroughly. The Arithmetic for the lowest class does not go far enough. I think the tables as far as the Multiplication table should be taught here, and leave those of Weights and Measures for the second class. I question the wisdom of requiring children of the lowest class to write on paper; for, apart from the fact that many of them have not yet learned to hold a book, or a slate, or a pencil correctly, much less a pen—the holding of which, for the purpose of writing, requires considerable skill—it would entail a great additional expense on School Boards to introduce proper means for writing on paper by children so young. The Grammar is well arranged. In Geography a little more should be given to the lowest class, unless the term, “map notation,” comprises what is required. The third class, too, should have the Geography of Europe added to that of America, to make the work proportionate. History is begun very judiciously with the fourth class; for it is a subject in which you cannot secure the interest of scholars, until they have attained to a certain degree of intelligence, as shown by their interest in the relations of people in a community. The arrangement of the Mathematical subjects is fair; but the limit in Geometry for the fifth class is quite artificial: if the first book is to be divided at all, it would be better to let the sixth class begin with the study of parallelograms at the 34th proposition. With regard to the remaining subjects, they could be more effectually taught if a little more time were given, which could be done by taking some from the Reading and Arithmetic in the two highest classes; and in the highest class, the work in Book-keeping might fairly take the place of Writing. We find in these that reading frequently leads to indifference as to expression and articulation; and the scholars are so familiar with the various rules in Arithmetic, that it requires a great variation of the work to keep their interest up.

But in looking at these remaining subjects, I am strongly reminded of the old adage referred to by Longfellow:

“Art is long and time is fleeting.”

And I fear greatly that with the present imperfect organization of our Schools, we may be attempting too much, and may be tempted to give our scholars a smattering of all the subjects, but make them reasonably proficient in none. I have no doubt a great many of us would like to take them up with eagerness and spirit; but we must not forget that this cannot be done without great detriment to the majority of scholars, to whom we owe the prime duty of grounding them well in those

subjects necessary to their welfare in life. The framer of this Limit Table is at one with us in this, that he gives greatest prominence to these. Let us not forget, however, that it is not the mere instructing, but the training of those under us that we have to attend to; and this can be best furthered by availing ourselves of every occasion to plant in their minds germs of thought in reference to the earth, air and sky, and to themselves as responsible beings, that may grow and bear good fruit when they are beyond our influence and care.

A dreamer dropp'd a random thought—
'Twas old, and yet 'twas new;
A simple fancy of the brain,
But strong in being true.

It shone upon a genial mind,
Until its light became
A lamp of light, a beacon ray,
A monitory flame.

The thought was small, its issue great—
A watch-fire on a hill;
It sheds its radiance far adown,
And cheers the valley still.

THE HIGHER EDUCATION OF WOMEN.*

BY RICHARD LEWIS.

The Higher Education of Women is an appropriate subject for consideration in this Conference; for it is the right and the duty of the school teachers of every grade to discuss all subjects connected with educational improvements. The material upon which they are daily operating is *Mind*. They have the best opportunity for watching the development and contrasting the characteristics of the mental faculties of their pupils, and of comparing the mental powers, as manifested in the distinctions of sex; and these advantages justify them to take a leading position in suggesting both what shall be taught, and who shall be taught.

But the subject of the higher education of women has become one of deep inquiry and earnest agitation. In the ranks of its advocates are found not only women of eminent talent and virtues, but some of the profoundest male thinkers of the age—believers in the necessity as well as the justice of the claim—are labouring in its behalf. Some attempts have been made to satisfy this demand by the delivery of popular lectures on a few subjects; and in some instances colleges have offered to women the full advantage of their entire curriculum of studies. While these efforts are an admission of the right of women to a higher culture, their best result

* After reading Mr. Stnart Mill's admirable essay on "*The Subjection of Women*," it is impossible to discuss the subject of this paper without being influenced by his views and form of argument.

has been to show that when women are allowed to compete with men in mental pursuits, the distinctions of sex have vanished, and they have won the highest scholastic honors, not as women, but as students.

But the true question at issue is, not that of capacity, but of justice and right. Women ask for this higher culture as a right, and because they desire it. The incapacity of women for the highest culture granted to men has been urged by ignorance and prejudice, but never proved by experience. If the objection could be established by experience—and all experience is against it—that women have inferior mental faculties to men, that does not sanction the injustice of refusing to women the highest education they can receive and universities can give. They claim it as human beings—not as women—on whose culture, as on their mental development, there can be placed no limits. The highest argument for the culture of the man is derived from the fact that he is an immortal being; that his intellectual faculties are capable of unlimited development; and that, as his culture is high, his character is exalted and his usefulness and happiness increased. But the argument holds for woman; for mental discipline and knowledge have the same influence, and lead to the same issues in her case as in that of man. The ignorant woman suffers as deeply in her personal degradation, and the loss of power, moral and intellectual, derived from education, as the ignorant man; and, as a consequence, she inflicts as heavy penalties on society, by her actions and example, as the ignorant man. In both cases ignorance is more costly than education, and the injustice, by whomsoever exercised, recoils on the oppressor.

But the question is, in reality, not whether women are qualified for the highest culture, or desire it; but, is it agreeable to men's interests and opinions? It is not a question of capacity, but of expediency; and the expediency does not affect the general interests of the race, but only of one half of it.

The highest ground on which woman claims this culture is a personal one; that is, as affecting her own advancement and happiness. It is, however, manifest that other results would follow.

The reform will affect the social relations of the sexes. Women are now placed in such subjection to men, that their condition is unquestionably that of serfdom. Custom and law make the man not only the superior, but as the husband, the master of the woman. He cannot buy nor sell her as a slave; he is bound to observe certain forms of fidelity, and perhaps certain moral obligations towards her. But his control is so large and constant, and her dependence is so absolutely on his goodwill, that in countless ways he can evade the civil and the moral law, and exercise over her actions all the tyranny and practise all the cruelty of the master over the slave. Now all this irresponsible power is given to men by themselves, on the old doctrine that men are the natural superiors of women; and no doubt this belief originated when brute force ruled the world. But among civilized nations brute force has succumbed to mental force, and the multitude, strong in physical power, everywhere submit to mental force, although inferior in physical qualities. The men of mind rule the men of muscle. Women, however, have not been permitted to share in the advantages which intellect has secured to men. Men do not now claim the right to govern women and refuse them the numerous civil advantages monopolized by their own sex because they possess

superior brute force, for that principle would implicate the rights of intellect; but they still claim the right to monopolize every occupation by which wealth, or honor, or power can be won, and to refuse to women the training and culture by which they could compete with men, on the plea that women are unfit for such offices, or that they do not possess the intellectual qualities to fill them. The sphere of the woman, men maintain, and this is most agreeable with their comforts, is home. Her destiny is that of the wife and the mother. It is true that amongst the wealthier classes the household drudgery is deputed to servants and officials; but no woman in the position of a wife and a mother can escape or can depute to another the moral and intellectual duties and influences of her position. Amongst all classes the education of women is inferior to that of men. But when this prevails amongst those classes who enjoy the advantages of the higher education, and where often the highest culture forms a necessary condition of the man's success and public usefulness, it spreads its evil influence deeper and wider over society. The husband in such circumstance is educated up to the necessities of his profession or his rank in society; while as the education of women in that class, is simply ornamental, ostentatious, and always superficial, the wife in mental culture and power is in every respect inferior to the husband. Such a union acts as a serious check to further advancement. The spirit of emulation, which constant companionship with a cultivated mind would sustain, is damped and discouraged in the husband. He may have professional or social inducements to continue what probably he began with, the resolution to pursue to its highest issues; but even spurred by the strongest ambition, he has not the same motive and constant support to advance, that he would have had if he had been associated for life with a partner of like tastes and culture with his own. In that degree that the wife is inferior to the husband, the family and society are the losers. The offspring of such a union loses because there is only one pattern and one influence on the side of culture where there should be two; and when the wife, wielding the mighty agency of maternal love, inspires and directs the tastes and pursuits of her children, she is tempted to exalt personal attractions and showy accomplishments above the higher education, and to foster a dislike and a contempt for what sinks her so much below her husband. The spirit of the family moulds and animates that of society. The children of such a mother will not cherish the same high respect and desire for mental culture that animate the father, especially in a trading community, where success in business often wins higher honors than moral excellence and mental gifts, and the father incessantly dragged down to the level of his wife rather than urged higher, has no home inducements to give to society the advantages of that constant effort after a nobler intellectual condition that would have prevailed had this partner been a woman of intellectual tastes and culture.

I attach the greater force to this view of the question, because while a ruling class is inevitable, and is necessary to every community, it is of the first importance that such a class should hold its supremacy by right of its intelligence and its virtues. In the past, that class was an aristocracy of birth and landed possessions, won either by valour in war or wisdom of statesmanship; and however oppressively it exercised its power, in many respects, it compensated for its tyranny by its public

usefulness—by a high sense of honor and a chivalrous devotedness to the glory of the country. Its sentiments and its spirit were reflected in the character of the people and pervaded the whole national life. The supremacy of an aristocracy of birth is passing away in old countries, and does not exist in the democratical communities of the western world. The aristocracy that rules here is one of mere wealth, into the ranks of which any man may be admitted with no other credentials than those of money and no higher morality than the pliable and doubtful morality of trade. But it is well for communities to have a high pattern before them; and an aristocracy free to all, but whose conditions of admission to its ranks are those of the highest culture, talents for counsel and government, and public and private virtues, is the best for guiding and moulding the public mind. To realize this high conception of a ruling power, women must be co-workers with men—sitting with them in colleges and universities—and receiving all the advantage of that mental discipline which prepare men for the highest functions of society and the state. Their influence then will pervade the family, and inspire it with the highest conception of public virtue and duty to the state; and their minds, enlarged and exalted by the best education, will offer to men new motives for public integrity and new sources of wisdom and counsel for the public good.

But I urge this culture on other grounds than that of making women equal to men in their maternal relations. We do not educate men that they may be better husbands, but better men; and I maintain that the destiny of woman is no more that of a wife than of a man that of a husband. The next important design then of this highest culture is to fit woman for any office of usefulness and honor in the community for which she possesses the right qualifications. There is no office, no occupation from which custom and prejudice now exclude her, for which she does not possess all the necessary mental gifts which entitle men to such offices. If there be any such office, which men monopolize on the plea that certain occupations are “unsuitable to women”—for that is the form the objection takes as advanced by men—then let women be the judges; give them the trial. Give them first the training and the education; and whether the occupation be one of the mechanical arts—from all of which women are excluded, and for many of which they are specially adapted—or the pursuits of commerce, or what are distinctively called the professions; if any such occupations prove unsuitable to woman, surely she would be the best judge of what is equal to her powers and her character, and the first to retire from a contest which imposed new duties and difficulties on her, and which brought no profit nor honour. But we judge after custom and habit, and under the influence of long established prejudices. Why should women not be as capable of usefulness and distinction in the study and practice of science as they have been able to make themselves illustrious in the study and practice of literature. We object to woman occupying the professor's chair; yet in physical science and history and political economy, she has many times been our instructor in books, which, written under every disadvantage, without any of the previous training and culture which men receive, lose nothing by comparison with the best productions of some of the most illustrious men, and often far surpass the average productions of common

men. If women desire to sit in theological halls, and receive instruction in all the subjects that qualify for clerical duties, what have we to oppose to that desire but our prejudices and denominational and orthodox views? If women after receiving such instruction add their productions to the divinity literature of Christianity, we have no reason to fear that they will teach false doctrines more than men, and every reason to believe that the deep moral instincts and the fervent religious spirit which have ever exalted women above men in practical life, in the world and in the church, will lose none of their force and their beauty, when expressed in the thoughts and the language of a cultivated mind. Religion and morality have had the noblest advocacy and interpretation in the poetry which women of genius have given to the world; and if a woman—to take the extreme case which conflicts the most with men's preconceived views of what is proper to a woman—thinks fit to take the platform or the pulpit, and deliver in oral speech what we all have received with delight and edification in their written productions, the impropriety, or the sin, if you dare give it that harsh term, is hers. If woman demand that office, and choose to give to Scripture her own interpretation of its teachings on the sphere and work of woman, it is alike unjust and opposed to the charitable spirit of Christian liberty to deny to one-half the human race privileges and rights which are accorded to the smallest fraction of the male portion of that race. If we look on the world's terrible harvest of sin, we cannot say that the workers for God and humanity are enough. We need a new army of earnest, ardent, devoted labourers to battle with the powers of darkness and of evil, that by their constantly growing numbers and unity of forces perplex, discourage, and too often overwhelm the legions that fight on the side of virtue, and truth, and God. We admit the power of woman for good; we know also her power for evil. But the power of women over their own fallen sex, to redeem, to purify, to cheer, to strengthen in good purposes, to lead back to virtue from vice, is beyond all measure greater than that of men. To the wretched, broken-hearted, degraded woman, the lessons of virtue fall from the lips of man too often with the harsh censure of the judge. But the woman is the best minister of peace and hope to her own sex; and whatever form her ministrations may take, whether as the comforter in the despair of sin, or the instructor and counsellor in wisdom and virtue, there is yet work, there is yet a sphere of saintly ministrations in aid of the degraded and fallen of her sex which has never been occupied by men, and which, if women, educated as men are for these holy offices, were to undertake with deeper emotional nature, with their intuitive perception of the feelings of their own sex, and with the natural sympathy with the woman's nature on the one hand, and confidence in the purity of motives on the other hand, would do more for the regeneration of the world which women occupy and influence, than has ever been done by the best effort of men. And, if I am to be told that all this can be done without that culture so essential to the man in such an office, I must reply by asserting that all that can be said in behalf of high culture for man as the moral instructor, applies with equal force to woman.

Women are now making a special effort for admission to the medical profession. They justify their claim on moral grounds. They maintain that the duties of the medical professor, when practised by men, often

violate every feeling of womanly modesty. It is true that women submit to the custom, because they have been trained to it, and taught to believe that it is necessary; and of course, that women are not intellectually qualified for the office. But the intellectual fitness of woman for the duties of the physician has been so fully demonstrated that none but the ignorant, or the prejudiced, or the interested continue to urge this argument against the claim. Then, strange to say, men have opposed the claim on the very plea that makes women demand it. Men have grown suddenly delicate and unusually anxious for the modesty of women; and you may hear the libertine, who would not scruple to trample on every law of modesty and chastity, when the question is raised of admitting women to the profession, which in their hands would shield the sanctity of womanly purity from all violation, express an amiable and exemplary horror of an innovation so contrary to his views of female propriety. The opposition which this innovation has met with from medical men can only be accounted for in the fear of the competition with which it threatens them. It is an invasion on the privilege of trade; and the rancorous hostility with which the efforts of women to get the highest scientific culture necessary for this profession have been assailed by young men supposed by position and culture to be gentlemen, has never been surpassed in its coarseness, vulgarity and cowardice, even in the conspiracies of trades' unions. *They* never assail women.

But the resistance is vain. Women have bravely fought their way into Medical Colleges; and, suffering persecution with a noble fortitude that could only be sustained by a high sense of duty, they have successfully competed with men in winning the scholastic distinctions necessary to practice their profession. They have already established their right to that practice by manifesting the necessary skill and knowledge; they only need now the support, the sympathy and respect of their own sex, in whose behalf they have made such gallant efforts, and suffered so much, to make the profession of medicine as much their own as it has hitherto been that of men.

It is impossible, in discussing this question, to evade the claims of woman to the education of the statesman. The politics of a country degraded by factions and placemen, are pronounced to be too corrupt and repulsive to the habits and character of women. But this is an interpretation of politics as they are and not as they should be. Political science supposes the highest wisdom applied to the public good; and the highest wisdom infers the highest morality, calmness in judgment, prudence in council, and political integrity. We have no reason for believing that women are less endowed with these moral and intellectual qualities for politics than men. If we take history into evidence we have many reasons for believing that she possesses these qualities in the highest degree. In England, when women have ruled, the government has always been distinguished, not only for its vigor and efficiency, but also for the purity of its politics; and Mr. Mill, in his work on the *Subjection of Women*, has produced a mass of historial evidence to show that the government of women in states has been marked for it eminent vigilance, economy and practical wisdom. On broad principles of justice it is not a question of privilege or expediency but right. The interests and happiness of women are as much involved in good or bad government as those of men. But viewing

the question only from the low stand point of a selfish expediency, there is every reason for believing that the influence of cultivated women brought to bear upon the politics of a country would not degrade them, but would refine and purify the spirit of partizanship. Who will deny that her influence purifies and exalts the church? and if that influence, guided by superior culture were thrown into the arena of politics, aided the counsel of statesmen, and pervaded the legislation and the administration of justice, while the state would have the advantage of her sympathies and her distinctive wisdom, politics would be elevated in tone, and a measure of justice in securing to her sex more righteous protective laws established, which in its moral and social results would be of incalculable good to the community. I do not say the Senate and the Legislative functions of the state should be thrown open to women; but if one woman, in vindication of the intellectual fitness of her sex for such office, has written ably and profoundly on politics, or history, or political economy, she gives you evidence that her sex is no just barrier to political usefulness or distinction.

Who can shut his eyes to the inevitable results of these struggles of women to secure for themselves the culture by which they may become less the dependents and household serfs, and more the equals of men? Let them be endowed with the qualifications for filling offices now entirely monopolized by men, and they will be, not the rivals, but the helpers of men. If wives and daughters of all ranks, were trained to practice any art or profession now followed by men only, is it not clear that husbands and sons would have lighter burdens to sustain? Is not the worldly welfare of daughters—how they shall subsist, what they shall do for a living—a source of painful anxiety to parents? Marriage is the common solution of the difficulty. But while the principle, that a woman must marry that she may live, is in every sense degrading, and followed by countless miseries and sorrows, it is not a solution. All women do not marry. Many of noble and sensitive minds shrink from marriage on such conditions. It may all be very satisfactory to the vanity of wealthy men that they can afford to keep their daughters in luxurious and useless indolence; but there are thousands of women, high minded and sensitive to the degradation of dependence, yet compelled to live almost on charity, because public opinion denies to them the advantages for self support, which it freely offers to men. I need not picture the social and moral evils that arise from this system of unwise and selfish monopoly. We know them too well; and when families are bowed to the dust by vices which cover them with sorrow and infamy, and society struggles in vain to suppress the terrible moral disease that evades every effort of legislation and frustrates every effort of Christian philanthropy; we learn then how women avenge themselves on public opinion for its injustice. While justice should be the motive for these concessions to women, the public good is the end and the fruit. We need the largest amount of cultivated talent for the public service and the interests of society. The higher the service, and the more important it is to the interests of the common weal, the rarer the talents to discharge its functions. We cannot have too much wisdom to serve the community. Give women the culture and advantages for serving the world you offer to men, then let your elections depend on merit not on sex, on fitness not on favour, and you not only double your

resources; but you secure in behalf of human progress, energies and capacities, that in the past have been lost to the race. We now prefer inferior men to superior women, and we thus not only confound and destroy the faith of women in the justice of men; but the whole community is wronged by losing the advantage of having the best workers to do the best work. The claim is so righteous; the interests involved so great and important to the welfare of society that the final issue can neither be uncertain nor far distant. In the measure that the reform is protracted, will human progress be delayed; for the higher education of women, is the highest education of men; and when men shall learn to concede to women the entire and largest culture they claim for themselves, in the accession of new aids, and sympathies awakened in behalf of human interests, they will understand how much they have lost by injustice, and how the best education we give to women is the best policy for men.

“The woman’s cause is man’s: they rise or sink
 Together, dwarfed or godlike, bond or free;
 For she that out of Lethe, scales with man,
 The shining steps of Nature, shares with man,
 His nights, his days, moves with him to one goal,
 Stays all the fair young planet in her hands,—
 If she be small, slight-natured, miserable,
 How shall men grow? But work no more alone!

* * * * *
 For in the long years liker must they grow,
 The man be more of woman, she of man;
 He gain in sweetness and in moral height,
 Nor lose the wrestling thews that throw the world;
 She, mental breadth, nor fail in childward care,
 Nor lose the childlike in the larger mind,
 Till—at the last, she sets herself to man,
 Like perfect music unto noble words;
 And so these twain, upon the skirts of Time,
 Sit side by side full summed in all their powers,
 Dispensing harvest, sowing the To-be,
 Self-reverent each, and reverencing each,
 Distinct in individualities;
 But like each other, even as those who love.
 Then comes the statelier Eden, back to men;
 Then reign the world’s great bridals, chaste and calm;
 Then springs the crowning race of humankind.
 May these things be!”

TENNYSON.

MINUTES
OF THE
THIRTEENTH ANNUAL CONVENTION
OF
THE ONTARIO ASSOCIATION
FOR THE
ADVANCEMENT OF EDUCATION,
HELD IN THE
THEATRE OF THE NORMAL SCHOOL BUILDINGS, TORONTO,
ON TUESDAY, AUGUST 12TH, 1873.



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NORMAL SCHOOL, *August 12th, 1873.*

In the absence of H. Alleyne Nicholson, M.D., D.Sc., M.A., F.R.S.E., Robert Alexander, Esq., First Vice-President, took the chair, at three o'clock in the afternoon.

Dr. Crowle read a portion of Scripture, and led the Convention in prayer.

The Roll of Officers was called by the Secretary.

The Minutes having been printed, were held as read.

The Secretary intimated that he had received a communication from the President, in which he stated his sincere regret at being compelled to be absent from the Convention; also from Dr. McLellan, that, owing to personal illness, he would not be able to deliver the address promised by him.

The Chairman of the Incorporation Committee reported what was done last year in this matter; that a Bill had been introduced last winter by Attorney-General Mowat, in which the right of Teachers electing three members to the Council of Public Instruction was recognized, though the manner of election was different from that desired by the Convention.

Moved by J. R. Miller, Esq., seconded by D. Johnston, Esq.,

That the Report of Incorporation Committee be received and adopted, and the Committee be reappointed.—Carried.

Committee consists of Messrs. McMurchy, Macallum, Anderson, Hunter and Alexander.

Mr. Samuel McAllister, Head Master, John Street School, Toronto, read a paper on Industrial Schools. A vote of thanks was given to Mr. McAllister for his interesting and important paper, moved by Dr. Kelly, seconded by J. B. Dixon, M.A.

The subject of the Essay was discussed by Messrs. Grote, Kirkland, J. C. Glashan, and Macoun.

Moved by Archibald McMurchy, seconded by Dr. Crowle,

That the hours of meeting during the present session of the Convention be from 2 to 5 p.m.; from 7.30 p.m. to adjournment; the forenoon of each day being left for Committees and the different Sections of the Association to do their work.—Carried.

Moved by J. C. Glashan, seconded by J. H. Smith,

That this Association having considered the importance of Industrial Schools, hereby appoint the following Committee to wait upon the Government and impress upon them the necessity of establishing one or more such Schools in this Province.—Carried.

Messrs. McAllister, Kirkland, and Macallum were named as the Committee.

EVENING SESSION.

First Vice-President in the chair.

Dr. Wilson attended and read the President's able and valuable address.

The Association requested Dr. Wilson to present to the President the cordial thanks of the members for his instructive address, on motion of J. H. Hunter, M.A., seconded by Wm. Macintosh.

A. Macallum, M.A., moved, and Mr. J. B. McGaun seconded,

That the hearty thanks of the Association be tendered Professor Wilson for his kindness in reading the President's address.

The following Delegates and others reported on behalf of their Associations:—

Mr. J. H. Smith, Inspector, Wentworth.

“ Archibald Macallum, “

“ F. F. Macnab, Lanark.

“ W. L. Brown, East Middlesex.

“ A. McQueen, Galt Union Association.

“ Edward Scarlett, Northumberland.

Mr. J. Howard Hunter, Lincoln.

" J. C. Glashan, West Middlesex.

" Archibald Dewar, Huron.

Professor Macoun, Hastings.

Mr. Mills, Brant.

" E. B. Harrison, Thames Teachers' Association.

" — Ferguson, Bosanquet and Plymouth.

" J. B. Dixon, M.A., Peterboro'.

NORMAL SCHOOL, *August 13th, 1873.*

AFTERNOON SESSION.

First Vice-President in chair.

Dr. Crowle read a portion of Scripture, and led in prayer.

The minutes of the previous day's Sessions were read, and on motion of Mr. W. L. Brown, seconded by Mr. Johnson, were received and adopted.

"School Organization."

Mr. Miller considered that if teachers found their school not properly organized under the supervision of the School Inspector, he (the teacher) should set about organizing the school himself according to the limit table, so as to have the work of the school placed on a proper basis; until teachers do so, they would not be doing justice to themselves or those placed under their care. Thorough examinations should take place, and a complete record kept of all work done in the school. He dealt with the subject of tests. Teachers should endeavour to make their pupils believe they were earnest in their work. He considered it was better to give short lessons to pupils than long ones. The teacher should do all in his power to establish a good feeling between himself and his pupils. A teacher should devote much time to review, which would help him in his after studies. There should be a time-table kept in each school. A class-book should be kept in which to keep a record of the work of each class on every day of the week, and every month the pupil should receive a report as to the progress he had made in the different branches of study. General registers should be kept. He deprecated teachers allowing pupils to do the work they (the teachers) should do. If they did not do their work themselves they had better not do it at all.

The discussion of the subject was participated in by Dr. Kelly, Messrs. D. C. Sullivan, Mills and Macnab.

It was moved by Mr. Johnson, seconded by Mr. Macintosh,

That the thanks of the Association be tendered to Mr. Miller for his address.—Carried.

Moved by S. P. Groat, seconded by Mr. Unsworth,

That the next order of business be taken up, and this discussion closed.

Moved in amendment by D. C. Sullivan, seconded by Mr. Scarlett,

That the discussion on "School Organization" be continued for 30 minutes.—Carried.

The discussion was carried on by D. C. Sullivan, A. Macallum, Mr. Munro, Mr. Macnab, Mr. Platt and Mr. Miller.

Mr. Kirkland read an elaborate paper on "Euclid as a Text-book," which gave rise to a spirited discussion, participated in by Dr. Kelly, Messrs. Sullivan, J. C. Glashan, Groat, Hunter and Kirkland.

On motion of D. C. Sullivan, seconded by Dr. Kelly, a vote of thanks was tendered to Mr. Kirkland for his very interesting and exhaustive Essay on the study of Euclid.

Moved by Mr. Dixon, seconded by Mr. Anderson,

That Messrs. Scarlett, D. Johnson, Crowie, McMurchy, Macoun and Tilley be a Committee to nominate officers for the ensuing year.—Carried.

EVENING SESSION.

The First Vice-President in the chair.

The Rev. Dr. McCaul delivered a lecture on the "Common Sense of Logic," which was received with manifest marks of approbation and satisfaction by the audience.

Mr. J. C. Glashan moved, and Mr. A. Macallum seconded a vote of thanks, alluding to the great interest all had felt in the practical address delivered by Dr. McCaul.

Notice having been duly given at the Eleventh Convention of this Association, it is hereby moved by J. C. Glashan, seconded by Mr. A. Macallum,

That Article 11 of the Constitution be amended by striking out all after the word Association, and that the following be substituted:—"By a two-third vote of the members present, provided notice of the amendments or alterations has been given at a regular Session, at least one day previous to that on which motion for amendment or alteration is to be voted upon.

Two Delegates reported on behalf of their Associations, and the Association adjourned until two in the afternoon of to-morrow.

NORMAL SCHOOL, *August 14th, 1873.*

AFTERNOON SESSION.

Mr. E. B. Harrison, Vice-President, in the chair.

The meeting was opened with prayer by Mr. Watson.

Minutes read and adopted.

J. Howard Hunter, M.A., read a paper on "Modern Culture."

Moved by Dr. Kelly, seconded by Dr. Sullivan,

That the thanks of the Association be presented to Mr. Hunter for the trouble he had taken in preparing his able Essay.—Carried.

A discussion followed, in which Messrs. Macallum, Mackinnon, Kirkland and Dr. Kelly took part. Mr. Hunter briefly replied.

Moved by E. B. Harrison, seconded by A. Macallum,

That Article No. 1 of the Constitution shall be amended by leaving out all words after "be styled," and the following inserted:—"Ontario Association for the Advancement of Education."—Carried.

Moved by E. B. Harrison, seconded by A. Macallum,

That Clause No. 4 of the Constitution on Union be struck out, and in Article 8 the words "shall constitute the Board of Directors" be left out, and in lieu thereof the following be inserted:—"That the Executive Committee of each section shall consist of five members, who shall be elected by that section. The Executive Committee of the sections shall constitute the General Executive Committee, or Board of Directors, of the Association. The nomination of the officers of the Association shall be made by the General Executive Committee, or Board of Directors."

It was moved in amendment by Wm. Johnston, seconded by J. R. Miller,

That Article 6 of the Union Amendments to the Constitution be struck out, and in Article 8 of the Constitution the words "five Councillors and the Delegates from the Branch Associations," with the words "shall constitute the Board of Directors," be struck out, and that Article 8 be made to read as follows:—"The officers of this Association shall consist of a President, six Vice-Presidents, a Recording Secretary, a Corresponding Secretary, and a Treasurer, who shall be elected annually. The Executive Committee of each section shall constitute the General Executive Committee, or Board of Directors, of the Association. The nominations of the officers of the Association shall be made by the Board of Directors, of which Board the President, the Recording Secretary, the Corresponding Secretary and the Treasurer shall be ex-officio members.—Carried.

Notice of Motion.—That the following shall read as the 7th amendment, page 9 :

The transactions of each Section shall be concisely reported to the General Association, in order that they may be published along with the minutes of the regular meetings of the Association.

The Committee appointed to nominate officers for the ensuing year reported, and the following officers were elected :

President—Professor Goldwin Smith, M.A.

First Vice-President—J. B. Dixon, M.A.

Second “ J. J. Tilley.

Third “ W. McIntosh.

Fourth “ W. W. Tambllyn, M.A.

Fifth “ J. Kilgour.

Sixth “ Robert McQueen (Wentworth).

Recording Secretary—A. McMurchy, M.A.

Corresponding Secretary—Thos. Kirkland, M.A.

Treasurer—S. McAllister.

Moved by D. Fotheringham, seconded by A. McCallum,

That the evil of irregular attendance and non-attendance at our Public Schools throughout the Province is of a most serious character, and demands immediate and stringent legislation for its removal.
—Carried.

Moved by W. Anderson, seconded by D. Johnston,

That the Association meet to-morrow morning at nine o'clock.

The Association then adjourned, to meet at 7.30 to hear the address of Professor Goldwin Smith.

EVENING SESSION.

Professor Goldwin Smith delivered a very interesting and instructive address on “ The Moral Element in Common School Education.”

A vote of thanks, moved by Mr. Hunter and seconded by Mr. Harrison, was warmly received and unanimously adopted.

After a short intermission, Mr. Turnbull read an exhaustive paper on “ Township Boards *versus* School-Section Boards.”

Moved by Mr. McKinnon, seconded by D. Johnston,

That a vote of thanks be presented to Mr. Turnbull for his able paper.—Carried.

A spirited discussion followed, chiefly in support of the views expressed in the paper, in which Messrs. Carlyle, Groat, Smith (of Wentworth), McKinnon, Brebner and Brown took part.

Mr. J. R. Miller then moved, seconded by Mr. J. Brebner,

That in the opinion of this Association, it is most desirable that a system of Township Boards be adopted, instead of the present system of Section Boards, in order that the expense of educating the youth of our country shall be borne equally by all, and that each child shall the better enjoy the benefits of a thorough public liberal education.

Moved in amendment by D. Johnston, seconded by R. McQueen,

That inasmuch as the existing law leaves it optional with the people to adopt the Township Board system if they see fit, that therefore this Association recommend that no alteration be made.

Moved in amendment to the amendment by Mr. McKinnon, seconded by Mr. Smith,

That this Association is in favour of legislative action requiring municipal taxation for school purposes, combined with sectional control.

The amendments having been put, were lost, and the original motion was carried.

FRIDAY, *August 15th*, 1873.

The Association met according to adjournment, the President, Professor Nicholson, in the chair.

Moved, seconded, and resolved,

That the members of this Association, having read the Bill submitted to the Ontario Parliament at its last session by the Hon. Attorney-General Mowat, and entitled, "An Act to amend the Public and High School Laws of Ontario," would suggest that the words "Masters" and "Teachers" be substituted for the words "Head Masters" and "Head Teachers," in the several sections of said Bill.

The Association thereafter, upon singing "God save the Queen," adjourned.

ARCHIBALD McMURCHY,

Secretary.

PROCEEDINGS OF PUBLIC SCHOOL SECTION.

WEDNESDAY, *August 13th*, 1873.

Mr. Lyman took the chair at nine o'clock in the morning.

Subject of Local Model Schools was taken up by Mr. McAllister, and ably discussed, holding that great advantages were to be derived from them.

After a lengthy discussion, it was finally resolved that a committee, consisting of Messrs. McAllister, McQueen, Johnston, and Macintosh be appointed to draft resolutions respecting Local Model Schools and Teachers' Institutes.

Moved by Mr. Campbell, seconded by Mr. Johnston, that Messrs. Campbell, McAllister, Watson, Johnston, Anderson, Macintosh, and the mover be a Committee to take the Superannuation Fund into consideration.—Carried.

A discussion took place on the Programme of Studies, but nothing definite was arrived at.

THURSDAY, *August 14th*, 1873.

Chair taken at nine o'clock by Mr. Watson.

The following clauses of the Committee's Report on Superannuation were adopted :

1st. That every Teacher who has been worn out in the profession, or who has taught twenty-five years, or who has attained the age of fifty-five years, be entitled to the pension, even though he may not have become infirm.

2nd. That the annual allowance to any superannuated or worn-out Teacher shall not be less than \$6 for each year that such Teacher has taught in a Public or High School in Ontario.

After some discussion, it was moved by Mr. McAllister, seconded by Mr. Macoun,

That in the opinion of this section, the compulsory clause of the School Act of 1871, relating to the Superannuation Fund, be struck out as soon as practicable.—Unanimously carried.

Moved by Mr. Macintosh, seconded by Mr. Ferguson,

That a Committee, consisting of Messrs. Lewis, McQueen, and the mover, be appointed to wait on the Hon. Attorney-General Mowat,

to lay before him the opinion of the Public School Teachers on the Superannuation Fund.—Carried.

Mr. Macintosh presented the report on Model Schools and Teachers' Institutes, which recommended as follows:

1st. That as teaching is a profession, its members require professional training, and that no teacher should receive a certificate who has not received such training.

2nd. That in order to provide such training, some existing Public School in each electoral division of the county, selected by the Council of Public Instruction on the recommendation of the Public School Inspector, be constituted a Model School, and that all candidates for third-class certificates who have not previously taught a Public School for three years, be required to receive a training as Pupil Teacher in some such Model School for that period.

3rd. That the head masters of said Model Schools be first-class certificated Teachers of at least five years' standing.

4th. That Teachers' Institutes be established in each County.

5th. That each County Teachers' Association, having regular meetings at least quarterly, be constituted a Teachers' Institute.

6th. That an Inspector of Teachers' Institutes be appointed, whose duty it shall be to visit each Institute at least annually, and conduct its proceedings during the whole of one of its sessions.

The report was adopted *seriatim*.

FRIDAY, August 15th, 1873.

Meeting opened by Mr. Watson, Chairman.

Minutes of the two preceding sessions were read and adopted.

Moved by Mr. Mackintosh, seconded by Mr. McAllister,

That the thanks of this Section are due and are hereby tendered to Messrs. Hunter, Johnston and Campbell for their efforts since last meeting of the Association to secure justice in the matter of the Teachers' Superannuation Fund.

Moved by Mr. H. Dickenson, seconded by Mr. Fullerton,

That the resolutions passed yesterday anent Model Schools and Teachers' Institutes be presented to the Attorney-General by the same Committee as was appointed yesterday to lay before him the resolution regarding the Superannuation Fund.

The following members were chosen by ballot as Executive Committee for the Public School Section:—Messrs. McQueen, Macintosh, Johnston, Dearness and Brown.

On motion, Mr. Watson was elected Chairman, and Mr. Dickenson Secretary of the Public School Teachers' Section.

Moved by Mr. Macintosh, seconded by Mr. McAllister,

That in the event of the Provincial Legislature conceding, at its next session, to the Public School Teachers of the Province the right of electing a representative to the Council of Public Instruction, the Chairman of the Executive Committee of the Public School Teachers' Section is hereby authorized to convene a meeting of the Executive Committee, to consult as to such action as may be deemed expedient in the premises.—Carried.

Votes of thanks were then tendered to Mr. Watson and Secretary.

The meeting then finally adjourned.

JOHN DEARNESS,
Secretary.

PROCEEDINGS OF HIGH SCHOOL SECTION.

The High School Section organized for the despatch of business by calling Dr. Crowle (Markham) to the chair, and appointing Mr. J. Howard Hunter (St. Catharines) Secretary.

The recent regulations of the Council of Public Instruction, relating to the admission of pupils to High Schools, were then considered, but the discussion was finally adjourned to a future session.

THURSDAY, *August 14th*, 1873.

The High School Section re-assembled at 9 a.m., Mr. McMurchy in the chair.

A resolution was offered recommending the omission of History as a test for the admission of Pupils to High Schools; but on an intimation having been received from the Education Office that this amendment to the examination scheme, and probably approved of by the central examiners, had been already entertained, the resolution was withdrawn.

Moved by Mr. Tambllyn, seconded by Mr. J. B. Dixon,

That we recommend that all Boards of Examiners for admission into the High Schools and Collegiate Institutes accept the papers of

the Council of Public Instruction for the examination in October next.

Moved in amendment by Mr. W. Oliver,

That in the opinion of this Section uniform papers be prepared as proposed in section 4 of the Regulations, and further, that such a change be made in the law as to make this mode of procedure imperative; also, that in the meantime the High School Section recommend the use of said papers in October next.

On a division the amendment was lost, and the original motion was declared carried.

Moved by Mr. Dion C. Sullivan, seconded by Mr. J. Howard Hunter,

That the High School Examination papers ought to be transmitted to the chairman of the several High School Boards, as the proper presiding officers of the Boards of High School Examiners, and that all duties assigned in these Regulations to the Inspector or presiding officer should devolve upon the chairman of the High School Board.—Carried.

Moved by Mr. P. C. McGregor, seconded by Mr. J. Henderson,

That clause 9 of the Regulations, which refers to the consent of parents, should be omitted as unnecessary.—Carried.

Moved by Mr. P. C. McGregor, seconded by Mr. J. Seath,

That section 13 be amended so as to read that four examinations for the admission of pupils into High Schools be held, and that the said examinations be held two weeks after the commencement of each term.—Carried.

On the reassembling of the Section at 4 p.m.—Mr McMurchy in the chair—it was moved by Mr. James Turnbull, seconded by Mr. H. J. Strang,

That section 19 of the Regulations be amended so as to read as follows: The attendance of candidates at a High School or Collegiate Institute will not be credited in making the appointment to such School or Institute, unless their admission be favourably reported on by the High School Inspectors as being agreeable to the Regulations; *but the Head Masters of the High Schools shall have the power to admit pupils provisionally until the first entrance examination thereafter.*—Carried.

HIGH SCHOOL BILL.

On motion of Mr. P. C. McGregor, seconded by Mr. J. Seath, it was unanimously

Resolved, that the clause of the High School Bill which provides for the transfer of the powers of the High School Boards to Municipal Corporations ought to be expunged.

The election of the members of the High School Committee was then proceeded with. On passing the ballot, the following gentlemen were declared elected: Messrs. Mills, Ballard, McMurphy, Hunter and Turnbull.

The Section then adjourned.

On the reassembling of the Section in the evening—Mr. McMurphy in the chair—it was moved by Mr. J. Howard Hunter, seconded by Mr. P. C. McGregor,

That in all cases of intended changes in the regulations of the Council of Public Instruction, it is desirable that at least six months' public notice be given of said changes.—Carried.

Moved by Mr. J. Seath, seconded by Mr. Crozier,

That in the opinion of this Section, the High School Bill should provide for each High School a District based on a minimum assessment capable of maintaining it in a state of efficiency.—Carried.

The ballot having passed, Messrs. McMurphy, Hunter and Oliver were chosen as a committee to present to the Council of Public Instruction and to the Government the views of the Section as expressed in the resolution agreed to.

On Friday morning a meeting of this Section took place. Present—Mr. McMurphy in the chair—Messrs. Ballard, Crozier, Dickson, Dixon, Hunter, Mills, Oliver, Strang and Turnbull. A doubt having been expressed whether a general understanding had not prevailed that the Section had finally adjourned, no formal resolution was passed, but the unanimous sense of the meeting was in favour of rescinding the resolution previously passed, and relating to the number of examinations for admission held in each year. The opinion of the masters present was unanimous in recommending that only three examinations be held in each year,—two as stated in the previous resolution, and the third at the commencement of the Autumn term.

REPORT OF THE TREASURER
OF THE
ONTARIO TEACHERS' ASSOCIATION,
FOR THE YEAR 1872-3.

RECEIPTS.

Deposit in Savings Bank, \$52 94; Cash in hand, \$6 04.....	\$58 98
Members' Fees, as per Register	60 00
Copies of Annual Report sold.....	22 90
Interest on Deposit—Nov. 1872, \$1 55; May, 1873, \$1 65	3 20
Annual Report—50 copies sold by Treasurer	5 00
	\$150 08

EXPENDITURE.

Secretary's Account—Postage, \$5 05; Paper, &c., \$2 60; Telegram, \$1 13	\$8 78
Printing Annual Report, \$27 50; Circular, \$16 50; Miscellaneous, \$5.....	49 00
Expenses of two Delegates to Protestant Teachers' Association of Quebec, \$12 each.....	24 00
Gas Account, \$3 75; Caretaker of N. S. Building, \$4	7 75
Balance on hand—On Deposit, \$56 14; in Cash, 4 41	60 55
	\$150 08

SAMUEL McALLISTER,
Treasurer.

PAPERS READ

BEFORE THE ONTARIO ASSOCIATION

FOR THE ADVANCEMENT OF EDUCATION.

PRESIDENT'S ADDRESS.

GENTLEMEN,—The best and most satisfactory thanks that I could possibly return for the honour you have done me by electing me as your President, would consist in the delivery of an address of some permanent weight and value. For this, however, I feel that my powers are insufficient, and that if my gratitude should be measured by any such standard, I shall be found to fall far short of the due appreciation of your kindness. I trust, therefore, that my hearty recognition of the honour you have conferred on me may be taken as granted, and that you will be content to listen for an hour to some scattered thoughts upon a subject upon which I have often reflected—the position, namely, that science ought to take in education in general, and more especially in the education of the young. In examining this question, it is very desirable that we should have a clear idea as regards two points of fundamental importance, namely, the meaning to be attached to the word “Science,” and the object, or objects, which are to be aimed at by any rational form of education. Perhaps no better definition of “Science” need be sought than that which simply defines the term as including all those branches of human knowledge, the ultimate data of which are to be acquired solely through the medium of the *senses*. I am aware that this definition would exclude such so-called sciences as Psychology and Metaphysics, the ultimate data of which can only be acquired by the operation of the internal consciousness of each individual. I am aware, also, that the generalizations of all branches of science are the result of intellectual operations, and are not acquired by any study of merely sensuous phenomena, however profound. Still, for our present purpose, the above definition may be taken as sufficient, since it includes all the sciences which are ever likely to be taught in schools. In other words, it includes the so-called Physical and Natural sciences, embracing all those branches of knowledge which are concerned with the investigation of the phenomena of the inorganic and organic worlds of nature.

We may stop, then, here to note that under this definition the sciences may be regarded in a twofold aspect, whether we look at them from an educational or from any other point of view. The data of the sciences, the facts which each comprises, are learnable by the senses, and are not truly or genuinely learnable by any other medium or channel. It is true that we may learn some or all of the facts of a science out of a book, by the exercise of mental power alone, and without ever having submitted one of these facts to the test of the five senses. We may do so; but assuredly no genuine knowledge of science

was ever obtained in this way, and the sciences, if they are to be learnt or taught after this fashion, certainly present no advantages over many other studies. On the other hand, the scientific as compared with the non-scientific knowledges, have the peculiarity that they are grounded in the sensuous and natural life of the human being. They reach the higher spiritual plane of the organism through the senses, and it is properly by "the five gateways of knowledge" that scientific truths should be imparted to the learner. Hence, the sciences present, to begin with, the inestimable advantage that they can be taught, as regards their simpler and more fundamental data, at a time when the higher mental faculties are comparatively undeveloped and in abeyance. Indeed, from the moment that an infant opens its eyes upon the world, it commences a course of scientific education which is carried out exclusively through the senses, and which is none the less complete because it is involuntary and unguided. Science may, and often is, so taught in later life as to deprive it of this inestimable advantage, but it remains certain that the *practical* teaching of science can be commenced at an earlier period of life than can profitably be attempted with the more ordinary branches of education—if only upon the ground that the senses attain their working powers much sooner than do the intellectual faculties.

Whilst the data of the sciences are grounded in the senses, the deductions from these data are purely intellectual, and hence science, in this second aspect of its twofold constitution, stands in precisely the same educational position as any non-scientific branch of knowledge. The *facts* of the sciences can only be discovered in the first place through the medium of the senses; and even after they have been once discovered, and have thus become common property, they should nevertheless be handed down from individual to individual through the same channel. On the other hand, the *generalizations* of science are supersensual, and are the result of purely intellectual operations. The observation of the celestial phenomena which constitute the groundwork of the science of astronomy can be carried out solely through the sense of sight, but no acuteness of vision, no complexity of apparatus, no repetition of investigation and research, would lead to the discovery of the law that the radius vector describes equal areas in equal times. We pass here from the region of sense into that of rational mind and intellect. The physical properties and phenomena of a thistle are presumably as well known to a donkey as they are to the highest of human beings—in so far, at any rate, as the senses of the two are equally efficient; but the latter can draw certain deductions from the facts which he knows about the thistle, which might perhaps embrace the constitution of the solar system in their scope, and which, at any rate, are entirely undreamed of in the philosophy of the former. Hence, science is in its essential condition composed of two departments—one embracing the facts of science which are acquired by the use of the senses, the other comprising the deductions and generalizations of science which are due to the working of the intellect upon the facts previously determined by the senses. Hence also, science, from an educational point of view, must be regarded as fundamentally a duality—its data being most fitly taught to the young, in whom the senses are most active, whilst its generalizations are most suitable for later periods of life, in which the senses are not so acute but the intellectual faculties are

more highly developed. This leads us to consider next, very shortly, what are the objects which should be sought to be attained by any form of education, and we cannot hesitate in arriving at a decision on this point. All conceivable forms of education must, to be of any value at all, do one of three things, or more than one of these things combined. The conceivable advantages to be derived from any study come under one or more of the following heads: 1. *Discipline*, or the training and development of the mental faculties; 2. *Culture*, or the improvement and development of the emotions and higher faculties, together with the unfolding of the natural æsthetic capabilities of the individual; 3. *Utility*, or the acquisition of certain knowledges, which will be of actual practical value to the individual in his struggle for existence in the particular society in which his lot may be cast, and will secondarily enable him to be of use to his fellow-men. I do not propose to enter at all into a discussion of the great controversy, whether the above objects of all sound education are attained more perfectly by a scientific or a classical training, or a judicious intermingling of the two. For my present purpose, leaving other branches of education to fight their own battle, it will be sufficient to show that science fulfils at any rate two of these objects—and fulfils them at least as perfectly as any more generally favoured department of knowledge. At the same time there can be no question but that an ideal education is many-sided; and no knowledge, however profound, of a *single* subject entitles a man to the honourable designation of “educated.” The learned German philologist, who did not know what potatoes were when he saw them, in spite of his enormous erudition, was no more an “educated” man, in the proper sense of the term, than is a man of science who is totally devoid of literary culture. To be altogether “*teres atque rotundus*” a man must know something of many things and everything of something. The only real practical question lies in whether those individuals—and there are, unfortunately, many of them—who have time and opportunity for examining but one of the facets of the crystal of knowledge, should confine their attention to the scientific or the non-scientific branches of study. Into this question, as I have already said, I do not intend to enter; but I shall endeavour to point out how far the sciences fulfil the three great objects of education, namely, discipline, culture, and utility, and how far they fall short of securing these objects when they are compared with other departments of study. Firstly, as regards *discipline*, I apprehend that I need say very little as to the value of scientific studies. That the study of physical and natural science is at least as efficacious in developing and training the mental powers as any other branch of human knowledge, I shall assume, I hope rightly, as being generally admitted. Witness—if witness be needed—the unchallenged position occupied by Mathematics, at once the handmaiden and the mother of so many of the sciences. There is, however, one point of view in which the disciplinary value of science is especially apparent as depending upon the twofold constitution of science to which I have alluded. Other branches of knowledge develop more especially the intellectual faculties, but science, in addition, trains the senses. The labour necessary for acquiring the *facts* of science immensely increases the power of observation, and sharpens and develops the senses; whilst the study of the generalizations of science constitutes one of the severest forms of intellectual training. It

may fairly be claimed, then, that the educational discipline afforded by the study of science presents certain advantages over that afforded by all non-scientific branches of study. It cannot, however, be too strongly insisted, that in order to realize these advantages, science must be taught *practically*. It is not enough for the teacher to rely upon books, either for his own knowledge or for his teaching. He must himself have some personal knowledge of his subject, and the facts which he brings before his pupils must be illustrated by actual examples, drawn from the world around him. Any science which cannot be taught thus practically had better be omitted from school education. Every school pretending to teach science should have a small museum and laboratory attached to it. Every pupil pretending to learn science should be encouraged to collect and examine natural objects for himself; to verify in person all the more important facts which he is asked to believe; and to test by his faithful senses the truth of the statements which he hears from his teacher or meets with in his books. Of course, some sciences are more susceptible of this mode of treatment than others, and there is nothing invidious in saying that in this most important respect chemistry has immense advantages, as regards school education, over other branches of science. There is no excuse for not teaching chemistry practically, but there would also be little difficulty in the practical teaching of geology, physiology, zoology, or botany in schools. In any case it is not fair to judge of the value of science, as an educational agent, from its results, when not taught in this practical manner. All scientific authorities are agreed in stating that science can only be taught in one particular way—that is, practically—and it is not, therefore, reasonable to condemn the results of science-teaching unless the teaching has been carried out on this system? As a matter of fact, however, the introduction of science-teaching into schools has invariably proved most successful in every single instance in which the instruction has been made practical in its character. Under these circumstances, science yields to no other branch of study as a means of mental discipline.

In the second place, as regards culture, it may at once be conceded that science is inferior to other branches of study—such as literature—with, however, the very important proviso that the studies in question cannot claim any superiority in this respect unless they are carried beyond a certain point, which is rarely reached in schools and not commonly attained even in a university. The literary appreciation of Homer and Æschylus, of Juvenal and Tacitus, of Shakespeare and Tennyson, presupposes a high culture, much higher than could be afforded by the study of science. But how often and to what an extent can the ordinary educational course of schools be said to be conducive to literary culture? In England, certainly, in the great public schools, it cannot be said that the educational training is favourable to “culture” in the high sense of the term. On the contrary, the tendency of English school-life is to produce what the Germans understand by “Philistines.” How many boys in the highest form of an English school appreciate the beauties of Horace’s odes, or would find the smallest difficulty in reading the death of Agricola in the original with an unfaltering voice? However, not to dwell upon this, I willingly concede that the prosecution of literature in its higher walks gives rise to a form of culture

more elevated, more polished, and more spiritual than is produced by the study of science. I will also willingly admit that the too exclusive study of science, in certain temperaments, is apt to harden the mind, to close the eyes to the higher and less tangible elements of human life, and to disturb the true balance between the intellectual and emotional faculties. Nevertheless these defects are not inherent in the culture produced by science; and there is another aspect to the question. It is easy to make the step from nature to nature's God. To the religious temperament the study of science must ever conduce to the highest of all forms of culture, the culture that is implied by *reverence*. It is a common charge against science that it is materialistic; but the charge is unfounded. Science fluctuates, like many other things, and it at present may tend towards what is commonly called materialism. I venture to assert, however, that science is in its essence religious, and that the time is not far off when this will be generally recognized. At any rate—and this is all that concerns us here—there can be no question that science tends to produce a profounder admiration of the wondrous works of the Creator, as displayed in the visible universe, a truer appreciation of the real objects of human life, and a more intelligent compassion for those who ignorantly sin against the unalterable laws of existence.

In the third place, let us inquire what educational standing science can claim on the score of *utility*. Here, again, I conceive that the claims of science are undeniable. Always admitting that the ideal education would consist of a judicious mixture of scientific and non-scientific studies, we must remember that the time allotted by the majority of mankind to learning is too short to allow of this general culture, and that the average schoolboy is not likely to master thoroughly more than one department of knowledge. Having painfully mastered the "three R's," the average schoolboy is driven to make choice as to what set studies he will embrace; and his choice is, or ought to be, guided by a due consideration of what knowledge will be most *useful* to him in future life. I say, then, that the claims of science are in this respect undeniable. Most men in civilized communities lead lives of an eminently practical character; and it is no exaggeration to describe human existence as being in its essence an incessant struggle with the natural forces by which man is environed. The more intelligently this struggle is carried out, the higher is the stage of civilization which is attained to, and every victory in this fight raises man nearer to his ideal condition. I am far from saying that the satisfaction of his material wants is all that man requires for his happiness and his welfare. Man is more than an animal, and his wants other than those of the day. Nevertheless, it seems tolerably certain that no great spiritual progress is possible where man's material wants remain unsatisfied; whilst the satisfaction of these wants in all cases depends directly or indirectly upon the completeness of the harmony between man and nature.

And how can this harmony be brought about? Surely in no other way than by instilling into the plastic minds of our children some knowledge of the world they live in—some love for the wonderful nature by which they are surrounded—some acquaintance with the laws which govern the universe. Most men, as I have said before, lead lives of an eminently practical character. In winning their bread they are brought daily into

contact with natural productions; they conduct operations depending entirely upon natural laws, or they have to deal with artificial products or machinery removed by the skill of man but one stage from the raw material of nature. It were easy for me to unroll before you the long list of scientific achievements of which our present civilization is the direct outcome, but there is no necessity for this. The common working life of a man pre-eminently demands a knowledge of common things; and this knowledge can only be obtained from science. How, then, can we doubt the utility of science as a branch of education? It appears, therefore, to me that if a boy has to choose between obtaining a certain limited knowledge of science or a certain equally limited knowledge of some non-scientific study, such as the classics, he will act wisely in choosing the former. If he can acquire both, so much the better; but if he has only time for one, utility alone, in my opinion, demands that he should choose science. Is the farmer more likely to succeed in discharging his functions in life by being able to construe a little Virgil, or by knowing something of the laws of chemistry? Will it more profit the skilled artisan to be able to string together Latin verses or to know something of mechanical laws? But I will not multiply examples of this kind. I will only draw your attention to one more consideration. No one but a medical man can estimate, even imperfectly, the amount of misery, disease, and even vice, which depends more or less directly upon the gross public ignorance of the commonest natural laws, and which might be more or less completely removed by the general diffusion of scientific knowledge. How many lives might be preserved if mothers but knew the rudiments of physiology, or had the faintest acquaintance with the structure and functions of the animal body? How much suffering might be obviated if there were but any general knowledge of the more important laws of health? How many of the ills to which humanity is heir might be mitigated or altogether abolished if sanitary science were but understood by those who frame municipal laws?

Upon the whole, then, I contend that the claims of science as a branch of education stand as follows:—As regards discipline, science is at least as good an educational agency as any other branch of study, and it is unequivocally better than many. As regards culture, science does not stand as high as literature, but it nevertheless holds no despicable position. It confers a peculiar culture, which, if different in kind to literary culture, and inferior in value, is, notwithstanding, genuine and real. At any rate, some knowledge of science is essentially bound up in the ideas comprised by the term “educated.” A man may be as “learned” as you please; he is certainly not an “educated” man, if he is unable to state why water boils, or why the mercury falls in its imprisoning tube at the approach of rain. Lastly, as regards utility, science stands perhaps pre-eminently high, so long, at any rate, as our present civilization maintains itself unchanged. There are, and probably always will be, departments of human activity in which the knowledge of other subjects is more important than that of science. It is, however, probably impossible to over-estimate the material benefits which would accrue from the general introduction of science into education. It is difficult in treating of a matter of this kind to avoid—whatever conclusion one may arrive at—the censure meted out to the saddler who openly

expressed his belief that "there was nothing like leather." I have not, however, exposed myself to this censure, if I have succeeded in making my views clear. In advocating this claim of science, I by no means wish to disparage other branches of study. On the contrary, I have merely tried to show that the full value of science as an educational agent has not as yet been generally recognized. It is to be remembered, also, that it is, in the nature of things, the last comer who has to assert himself. The non-scientific branches of study are in possession of the field and sit serene in the honour which is conferred by time alone. Science finds it necessary, in its position of a comparative stranger, to introduce itself to the public, to divest itself of its natural modesty, and if necessary, to obtrude its claims with something of self-assertion.

If I have established my position that science has high theoretical claims for a recognized place in general education, I should, in conclusion, like to say a few words upon the practical difficulties which attend the carrying out of these claims in actual life. The difficulties in question are by no means confined to Canada, though perhaps more conspicuous here than in older communities; and they may be summed up under three heads:—1. The difficulty of obtaining competent teachers; 2. The difficulty of teaching science practically; and 3. The difficulty of obtaining suitable school-books on scientific subjects. In the first place, the difficulty of obtaining competent teachers, though a very serious one, may be lightly passed over, as its origin and remedy are alike clear. Science has suddenly risen into importance in education, and there has, therefore, not elapsed sufficient time to develop a body of teachers sufficiently large and sufficiently informed to meet the wants of the new era. In so far as the evil arises from this cause, it may safely be left alone, as it is certain to cure itself in the long run. Worse than this, however, is the fact that the place of science in education has not yet been sufficiently, or at all generally, recognized; that there is no appreciation of the necessity of a special teacher of science in every large school; and that there is, therefore, little encouragement for our young men in devoting themselves to the study of science. This, however, is also likely to cure itself in time; and the supply is certain ultimately to equal the demand. Worst of all is the lamentable but undoubted fact that those who would teach science in many cases do not recognize that the one essential qualification of a teacher in science is direct, personal, and practical acquaintance with the facts to be taught. Book-knowledge may do well enough for some branches of education, but it is an utter failure in science so far as concerns teaching. And the more elementary the scientific knowledge to be imparted, the more urgent the necessity that the teacher should not be speaking simply at second hand. When this fact is once recognized, we shall hear less of the difficulty of obtaining an adequate supply of science-teachers qualified for their work; and it can hardly escape recognition in any reform of our higher institutes of learning. There is, therefore, reason to hope that this first difficulty, by which the establishment of science as a branch of general education is assailed, will be removed in the regular course of events.

In the second place, we have to confront the difficulty to which I have already alluded, that science-teaching is valueless unless conducted upon a practical basis, and that it cannot, therefore, be easily carried out in

schools. The first part of this proposition I shall not dilate upon, as all scientific authorities are entirely in agreement about it. No one whose opinion upon the subject is worth anything doubts that the value of scientific teaching lies in its being strictly practical to begin with. Not only must the teacher be practically acquainted with his subject, but the pupil must have the facts of the science presented to him in a tangible form. He must learn from *objects*, and not merely from books; and he must be encouraged to collect his facts for himself. At first sight it appears very difficult to carry this out; and our schools, as at present constituted, are certainly little adapted for the development of this idea in practice. There is, however, no reason in the nature of things why this should be so. The objects and apparatus absolutely essential for teaching any given branch of science are not numerous, and could readily be obtained, at little cost, by any large school. As regards some of the sciences, such as Geology, Natural History, or Botany, the objects necessary for practical teaching are, to a large extent, directly accessible to both the teacher and his pupils. There is no reason why every large school should not acquire for itself a good local museum, embracing the natural objects, organic and inorganic, of the surrounding district. Such a museum would be largely recruited from the collections made by pupils themselves, who would thus be stimulated to independent observation, and who would, unconsciously and without effort, acquire knowledge which could but painfully and imperfectly be gained from books. Such a museum, also, would supply the teacher with many of the objects necessary for class-demonstration; and, it is not too much to say, would be of considerable practical value to the professional scientific observer. That this idea is not chimerical has been proved by the practice of such well-known English schools as Rugby and Marlborough, and I do not despair of seeing it more or less completely realized in this country. In the meanwhile, I can but insist that the teaching of science merely out of books, if not absolutely injurious or worthless, is no fair test of the value of science as an educational agent; whilst I do not see any insuperable difficulty in the way of teaching at any rate some of the natural sciences in schools in a thoroughly practical manner.

I could have wished to say more upon this subject, but I must conclude with a few brief remarks upon the third difficulty to which I have alluded—the difficulty, namely, of obtaining good text-books on science—to which I would add a few words on the comparative advantages presented by the different sciences as regards school teaching. The difficulty of obtaining good text-books arises from two causes, one peculiar to our educational system, the other universal and confined to no particular country. The latter is simply the fact, that many very unreliable and inaccurate text-books of science are in existence, owing to the common but most erroneous idea that anyone can write an elementary text-book on any subject of science. The truth is, that it requires a profound, and above all a practical, knowledge of the subject to enable a writer to produce a good text-book for beginners on any branch of science. This may sound paradoxical, but it is undeniably true. To put the same truth in another form, it requires less knowledge of a subject to teach grown-up men than it does to teach boys. Adults are much better able to supply any deficiencies that there may be in the teaching for themselves than

young people are, and the latter require the simplicity and directness of exposition which is never found apart from extensive and profound knowledge. Everyone who has been at any time engaged in the practical work of teaching will admit this, and I need say no more about it. The fact, however, is not generally recognized, and hence two-thirds of the scientific text-books in existence are entirely unsuited for the purpose aimed at by their authors.

It follows from the above that the choice of good text-books in science is by no means an easy matter; and it may reasonably be doubted if the existing machinery is sufficient for the discrimination of the few good from the many bad. The text-books to be employed in the schools of this Province are selected by the Council of Public Instruction. Now, I do not wish to say a word in disparagement of that body, the duties of which are very onerous; but it cannot be overlooked that of the members of the Council by which the existing scientific text-books were chosen, no one possessed any special practical acquaintance with science, or could claim to be accepted anywhere as an authority on any department of scientific investigation. It so happens, therefore, that whilst science-teaching occupies a recognized place in the school system of this country, there is no adequate provision for the selection of suitable scientific school-books. And, as a matter of fact—indeed as an almost inevitable consequence of the constitution of the Council—the authorized text-books of science are in several instances of a very inferior character—a most serious evil, when it is considered that the science-teaching in schools is almost exclusively from books. Hence, also, the singular omission of certain science-subjects very well adapted for school teaching, and the introduction of others that might well be dispensed with.

Of all the departments of natural science which can be taught in schools, chemistry, probably, takes the first place, owing to the facility with which its fundamental facts can be practically brought before the learner. The amount of apparatus necessary for demonstrating the more elementary phenomena and laws of chemistry is not very large and can readily be obtained by any of the larger schools. Dealing also, as it does, with inorganic or dead nature, it is free from the complexity which attends the biological sciences. For these reasons chemistry is perhaps the best subject which can be chosen with which to commence a course of scientific study; and it has the additional advantage of being most closely interwoven with many departments of practical life. I need only add that Roscoe's "Elementary Chemistry," the authorized text-book, is written by a master of his subject, and is everything that could be desired.

Botany can be readily taught in schools, provided the instruction is more or less confined to the summer months, and is of a strictly practical nature. There is not the smallest difficulty in obtaining actual examples of plants whereupon to demonstrate the more important facts of botanical science; and there is, therefore, absolutely no excuse for teaching this subject from books. Under any circumstances it is more than doubtful if any benefit is gained by extending botanical instruction in schools beyond the simpler facts of vegetable organography and physiology, along with, if possible, some acquaintance with the commoner wild plants of the country. Botany is so overlaid with technicalities that it does not seem advisable to go beyond this. The authorized text-book, Dr. Asa Gray's "How

Plants Grow," is an undoubtedly good book, but has several disadvantages. The flora, which occupies one-half of the work, might profitably be omitted, and the work is not distinctively Canadian. At present no better text-book could perhaps be obtained, but I trust to see ere long an indigenous work on this subject by some native botanist, which will more fully meet our wants.

The teaching of Natural History in schools is attended with considerable, but, I think, not insuperable difficulties. Biology, or the science which treats of the laws and phenomena of animal and vegetable life, can be taught without much difficulty, but the teaching of systematic zoology is a far harder matter. Still, if only the practical method be adopted, zoology would prove a most useful branch of school education. If the teacher would simply teach to his pupils the peculiarities of all the common animals, domestic or wild, which he could get hold of, much would be gained. In this way a basis would be formed for the prosecution of deeper and higher studies in zoology. The pupil should study *types* instead of *groups*, and should study these practically; and there is really little difficulty in obtaining characteristic examples of the leading classes of the animal kingdom. When once this is understood, zoology can be taught with profit, and every large school can readily accumulate specimens of the comparatively few types of animal life required for this mode of instruction. In the meantime it is, perhaps, best to confine the teaching of zoology almost exclusively to what would commonly be understood by the term "Biology." The authorized text-book of Natural History, Mr. Ellis Davidson's "Animal Kingdom," is probably as bad a work upon the subject as could have been selected. It is crowded with inaccuracies and mis-statements of every sort and kind; its style is most objectionable, and it exhibits conclusive evidence that its author has neither enjoyed the advantages of a classical training, nor has even a moderate knowledge of the laws of English composition. Altogether it is entirely unsuited for its ostensible purpose, or, indeed, for any purpose that appears upon the surface.

Geology is a subject which might advantageously be taught in schools, and its omission is quite inexplicable. It has most important bearings upon various departments of practical life (as, for example, husbandry), and it can very readily be taught practically, finding its illustrations in every railway cutting, brook-course, or mountain side. It has also most intimate and important relations with the subject of Physical Geography, which may, indeed, be regarded as nothing more than the Geology of the present. The number and excellence of the introductory text-books on this subject render it invidious for me to name any one in particular, but it is questionable if Professor Page's "Introductory Text Book of Geology" has ever been surpassed for teaching purposes.

Physiology, though in many respects a subject of great importance, can only be taught in connexion with Natural History; and the more special departments of Human Physiology should only be touched upon within certain very definite limits. In any case, physiological teaching is useless, unless illustrated with numerous diagrams. As regards text-books, Cutter's "First book on Anatomy and Physiology" may be in most respects commended; but the little book entitled "Our Bodies," by Mr. Ellis Davidson, is open to the same censure as the book by that

author on Natural History. It is the production of a writer who has no practical acquaintance, and but a very imperfect second-hand knowledge, of his subject, and who labours under the additional disadvantage of a marked want of literary training.

As regards Mechanics, it may be questioned if this subject can be profitably taught in schools, except by the aid of mechanical models and diagrams, such as are seldom available. The elements of Natural Philosophy, however, may be reasonably and advantageously taught to advanced pupils, and there is no difficulty in obtaining suitable text-books on this subject. Lastly, as regards Agriculture, it is chiefly of importance to note that this subject is not a *Science* at all, in the strict and proper acceptation of the term. Agriculture is what is sometimes, though inappropriately, termed an "Applied Science." It is an "Art." In other words, Scientific Agriculture consists in the application to husbandry of the sciences of Chemistry, Natural History, Botany, and Geology. These sciences can, as regards their elements, be taught with profit in schools; but agriculture can only be learnt upon the farm, and should find no place in ordinary school education, nor indeed in any course of study which cannot be carried out and enforced practically. Holding this view, as I do very strongly, it seems unnecessary that I should offer any opinion upon the merits of the authorized Text-book of Agriculture.

In closing this imperfect address, I can merely thank you for the attention with which you have listened to opinions in which you may find yourselves, perhaps, in some cases unable to concur. The subject is one upon which probably no two men think exactly alike; and I am far from supposing that my own views are altogether free from objection. I have, however, felt it my duty to express my views upon this important subject with perfect candour, it being better not to speak at all on such questions than not to speak freely and unreservedly. I can simply hope that if we should differ, we may "agree to differ" without any diminution of mutual respect.

MORAL ELEMENT IN COMMON SCHOOL EDUCATION.

BY PROFESSOR GOLDWIN SMITH.

"Among the various topics connected with Education which might be brought before a meeting of teachers, I have chosen as one deserving of special attention, 'The Moral Element in Common School Education,'—I mean the effect of the system upon character as distinguished by its effect upon intellect.

The circumstances of our age are such that, if our education is common, it cannot be religious. For my part, I think this a misfortune. Not that I think much is to be gained by teaching children, or anybody else for that matter, mere dogmas and formularies; but I think it is a misfortune that we should not be able to introduce into the common education of the young whatever is highest and deepest in our motives to right conduct,

and to the formation of a virtuous character. But so it is. This is a period of religious division and decomposition; of splitting up into sects, or of total eclipse of faith. The only great mass which remains united is manifestly held together by tradition and authority; whenever it is exposed to the influence of free knowledge or free discussion, it gives way like the rest. So universally is this the case that some begin to say that the end of the theological period of history is come; that religion is about to give way finally to science as the guide of life; and that spiritual motives will be finally superseded by motives having no relation to anything but the good or ill of this present world. For my own part, I am not of that opinion. I believe that the 'Sun of Righteousness,' though now hidden from many by a cloud raised mainly by Byzantine and mediæval exhalation, will shine bright again upon the eye of the soul—that the great vital truths of religion will become clear again, clearer than they have ever been before, and that we shall see more distinctly than ever the reality and the paramount importance of the spiritual life. But in the meantime we are divided and uncertain, and a religious education common to all is out of the question. Separate schools we might of course have for every sect or shade of opinion. But to say nothing of the ruinous waste of resources, the separate schools are morally, I am persuaded, no better than the rest. The dogma which these schools teach is morally ineffective. It is before us and not behind us that the land of promise lies. Clouds may surround the dawn of the day of science; but the moonlight of the Middle Ages, however romantic, will guide our feet no more. I have seen that way tried at Oxford by intellects as powerful and natures as high as are ever likely to surrender themselves to imagination and tradition; and failure, signal and decisive, was the result. Nor do I attach much value to any slight or furtive recognition of religion in the way of a deodorized prayer or Scripture reading. It seems to me better to say at once the school is secular, and does not presume to meddle with things to which it cannot do justice. The supreme value of all that which concerns our spiritual life we may teach; and we inculcate the habits which lead to such truth—openness of mind, candour, sincerity, respect for honest inquiry and for its results. We may make the child feel that life is a serious thing. Religion itself we must let alone, and leave to home and to the pastor. But there may still be in our education a valuable moral element, both in the way of teaching and of influence; and it is useful to review this element, to see whether we are making the most of it, and whether it is well adapted to our circumstances and calculated to check the special evils of the particular state of society in which we live.

First of all, however, a word must be said upon the good old text about the silk purse and the sow's ear. Before you undertake to estimate the work or to blame the shortcomings of any set of teachers, or of any educational system, you must ask with what sort of pupils the teacher or the system has to deal. To use a homely metaphor, if, when we have done our best, the potato is not peeled very clean, the fault may lie wholly in the peeler, but it may lie partly in the potato. When fond parents find fault with the goods manufactured by the teacher, they should consider—if it is possible for paternal and maternal love to consider—what sort of raw material they sent him. If a child were sent with a crooked spine,

teachers would hardly be expected to set it straight. And when a child is sent with a temper spoiled, and a brain clouded through the injury done to its stomach by cramming it, or allowing it to cram itself with all kinds of trash, can it be expected that these effects of physical maltreatment will be cancelled, that the soured temper will be restored to sweetness, or the clouded brain cleared by any skill in teaching, or by any system of education you can desire? If such a child learns anything, and is trained to any sort of decency in behaviour, is it not as much as the parent can expect? The Governor-General was reported the other day to have made some remarks on the fractiousness and rudeness of the American children you meet on the cars and steamboats. The travelling American is not the best specimen; and when you come to live in American homes, you will find many of them as well governed as any you see elsewhere. Still, the general unruliness of children in the States is a fact which cannot be denied; and as the social conditions are pretty much the same, I suppose we are not safe against the contagion here. It is the excess of the democratic spirit in their raw democracies which extends to the household, and prevents the due exercise of authority there. Added to this is the premature mannishness produced among the boys in these growing commercial countries by the prospect of early independence. Early independence is a great thing in itself, but the effects on domestic relations and private character are not always pleasant. I have seen a whole party of schoolboys, mere children, waiting for a street-car, go into a neighbouring tavern to get their nips, and you find cigars in the mouths of maunikins not much bigger than a monkey. The nippers and smokers, when at home, are probably not remarkable for paying respect to grey hairs. Here, again, it is only to a very limited extent that the school can be expected to contend against the general bent and bias of society. We must look mainly to other influences, which, as things settle down in these new communities, will probably come into play. It is to be hoped, among other things, that some day Government itself, the centre and pattern of all authority, will become again an object of reverence and a source of reverential feeling, though without ceasing to be based upon the national will. While it is a partizan fight, and a domination of such persons as nature selects by that mode of struggle for political existence, the evil influence will be felt in all our relations and in every home. The direct moral influence of learning to read and write has perhaps been overstated. Statistics are produced to show that the majority of criminals are ignorant. But is their crime the consequence of their ignorance, or are both the consequences of their having been brought up in the gutter? Besides, when I was a member of a Popular Education Commission in England, it came under my notice that these statistics were vitiated by another unsuspected circumstance—a strange tendency on the part of criminals to conceal the fact of their having received education. Perhaps they thought it might be deemed an aggravation of their case; at all events, the chaplain of the gaol found that prisoners set down as unable to read or write could really do both. That ability to read and write may be used for very objectionable purposes we have, unfortunately, proof enough. Education gives a man larger powers, which may be used for good or evil. It opens new avenues to his mind through which good or evil influences may find their way. There is happily, however, no

doubt on which side practically the balance lies. A comparison of the educated with the uneducated nations demonstrates that in the gross education leads to virtue. Perhaps there is no nation in which the distinction between intelligence and morality is more marked than among our neighbours to the South; yet no one can have lived among the Americans without being convinced that their intelligence is on the whole a moral force. Most direct, and probably most effective, among the moral elements of the system is the discipline of the school. It is of especial importance in a country like ours, where, as I have said, authority and respect for authority are impaired by the excess of the democratic spirit, but yet unchecked by political experience, and still in a state of violent motion against the well-remembered evils of despotism and privilege in the Old World. It is needless to tell you, who know so well, in what a good discipline consists. Reasonable laws, such as the child, as its intelligence opens, may clearly see to be for its good, inflexibly enforced, or relaxed only for reasons as strong as those for which they were made. Nothing needless and vexatious either in the way of rules or interference. Gentle admonition when an offence is not wilful—reproof when necessary, but measured and appropriate to the offence. In the last resort punishment, not inflicted in anger, but so inflicted that the culprit shall fear to offend again. Such are the well-known and commonplace elements of a good discipline in schools or elsewhere. It is well to remember that reproof as well as punishment may be made ineffective, and worse than ineffective—it may be made the means of deadening a child's moral sensibility by indiscriminate use. If we would have a child mind what we say, we must let him see that we mind what we say ourselves. In children obedience is a virtue, and a habit which it is necessary to cultivate; yet so far as their understanding goes, it is well to let them know the reasons for the laws they obey, especially in a country where they are law-makers *in posse* themselves. They will thus see that punishment in case of breach of the law is necessary, and brought on by their own act. Perhaps an hour or two in the course of each school year might be well employed in explaining to the school the reasons of the discipline they are under. A system of school discipline based on these obvious principles, and administered with steadiness, may produce a good and lasting effect on the character of our young democracy.

It is now an axiom that as much of kindness and even of affectionateness should be infused into the system as possible, and that the child should be allowed to feel as little difference as possible between school and home. Perhaps in many cases already, if the child feels a difference, it is not to the advantage of home. But still school, compared with home, must be a place of discipline; it cannot be all sweetness and pic-nics. Men in after life do not work for love of labour, but under the pressure of need; and I am afraid children will never learn their lessons entirely from love of learning. The idle will need the spur, and the unruly will need the rein. It will be well if spur and rein can be so applied as to improve the character instead of injuring it, as they did in the old flogging times.

Of the prize system, so much discussed, this perhaps may be said that, as the world now goes, competition is the law of after life; and competition at school may at least be fair, which that of after life is often far

from being. But, on the other hand, there is truth in the objections urged in a poetic form by Cowper against the use of emulation as a stimulus:

'Boys once on fire with that contentious zeal
 Feel all the rage that female rivals feel ;
 The prize of beauty in a woman's eyes
 Nor brighter loom in them the scholar's prize,
 The spirit of that competition burns
 With all varieties of ills by turns ;
 Each vainly magnifies his own success,
 Resents his fellow's, wishes it were less,
 Exults in his miscarriage if he fail,
 Deems his reward too great if he prevail,
 And labours to surpass him day and night,
 Less for improvement than to tickle spite.
 The spur is powerful, and I grant its force ;
 It pricks the genius forward in its course,
 Allows short time for play, and none for sloth,
 And, felt alike by each, advances both ;
 But judge when so much evil intervenes,
 The end, though plausible, not worth the means.'

On the whole, I would submit that the principle of rewards given to all who come up to a certain standard, is better than that of prizes given by competition, and if the stimulus afforded by it is not equally powerful, I believe it is powerful enough.

I put the moral influence of the system before that of the character of the individual teacher, because I believe that in a general way more is to be hoped from system in all its departments than from the individual. The ideal teacher—the teacher who is painted in all essays on education, and whom school trustees and parents expect to get—may be defined as an archangel at five hundred dollars a year. But even the more attainable excellence, the excellence of the man who has a special genius for education, is as rare as any other kind of excellence. Among all the eminent and highly paid teachers I have known, I think I could count on the fingers of one hand those who had a special genius for their calling. There is no use in laying on ourselves, or on others, burdens of expectation and responsibility too heavy to be borne. We only discourage ourselves from doing that which is really within our power. The most that can be expected of an ordinary teacher is that a good system being given, he or she shall faithfully carry it into effect. For this it will suffice to have, in addition to common sense, diligence, punctuality, ordinary good temper, and ordinary self-control, without the magnetism and electricity which we are sometimes told it is almost criminal in a school teacher to be without, though magnetism and electricity are not often found in parents or trustees. With the qualities I have named and a tolerable system, a teacher may be sure that he is improving the character as well as informing the minds of children, and doing a good work in both ways for the commonwealth, though he may not be a village Arnold. The very numbers would render it impossible for a public school teacher to be a moral missionary to each child.

The moral parts of the teaching are moral science, social science and history. Physical science has a moral aspect, as it impresses on us the necessity and duty of conformity to the physical laws of our being; but this idea, though its influence in the adult world is daily growing, hardly yet penetrates the mind of a child.

The modicum of moral science communicable to children is not perhaps yet very potent. A child knows what it is to be good; the great thing is to make him desire to be good. And this is to be done, not so much by analyzing goodness for him as by presenting to him its image in a way to make it the object of his affection. This may be done either by history and biography or by fiction.

It is time that our school histories should be written on some definite principle, and with some definite object; for at present they are written for the most part without either. Yet their character is not without importance. I doubt whether a more active or a more virulent poison was ever infused into the veins of a nation than that which is infused into the American nation by such school histories as are used in the United States. What can be expected if people are fed through their childhood on such stimulants of national vanity and malignity? But our common school histories, though not positively noxious like the American, are generally poor stuff. If they are not poison they are sawdust—dry epitomes with mechanical duties devoid alike of power and of nourishment. It would be almost better that children, instead of being thus repelled from the subject, should pick up their notions of history as they can. There may be said to be two elements in history—the philosophical and ethical. The philosophy of history is hardly yet in a condition to be presented to the young, but of the ethical part more might be made by simple and vivid descriptions of great characters and great events, such as would fix them in the imagination and touch the heart. History thus taught would be no ineffective school of public virtue, especially of the love of our country, which is specially needed to correct the somewhat selfish and self-isolating tendencies of our race, and which we may cultivate in its good and moral side without running into the extravagance of Americans. Examples of private virtue will be furnished by biography, and I believe that well-written lives—such as that model of biography, ‘Southey’s Life of Nelson’—make a real and lasting impression on the minds of the young. I am almost afraid to speak of fiction. Charles Kingsley said the other day that he would as soon think of eating a dead dog as of reading a sensation novel. The amount of dead dogs people are daily eating is beginning to tell, depend upon it, on the mental habits of the eaters. But good tales are, and always have been, powerful instruments of moral education, both for children and for adults. I mean by a good tale not a *goody* tale, rewarding precocious virtue with plum-pudding, but those which present moral beauty in a winning way, and enlist the child’s heart on the side of right. Few literary men have rendered greater service to this generation than Hans Andersen. I cannot help thinking that if, instead of the dry reading to which children are condemned in reading books, it were possible to introduce a few good short tales, something might be done towards giving a right direction to their sympathies and tastes.

There is reason to hope that the day is approaching when Social and Economical Science will be made available for educational purposes in a way that will have a good effect on national character. I do not mean dry political economy, or the things that are discussed by Social Science Associations. I mean the great laws of our social and economical being. The one great lesson now taught our pupils from childhood upwards is to

rise in life. It is not only the prize system that fosters this notion in our young citizens; it is instilled into them at every pore. To clamber over the heads of our fellows is the only way to respectability and happiness; to exist contented and do your duty in the station of life to which you are called is degradation and misery. Thus education, especially in the United States, becomes a preaching of universal discontent. Hardly a farmer's child there is willing to remain quietly on the farm. It would be injurious to the commonwealth as well as to the individual to check honest ambition, whether commercial or of any other kind. But the number of those who can really rise must be small. The great majority must, after all, look for their happiness in the sphere in which they are born. They must find their dignity and their comfort in their position as members of humanity, and as fellow-workers in a work the lowest part of which is as necessary as the highest, or rather in which there is no lowest or highest, but all the parts and all the workers are really equal, and the wages of all who do their appointed work will be the same in the end. This is the lesson which social science and political economy, rightly studied, are calculated to teach. They show our relations to each other, our dependence on each other, and the equality of all, except idlers, in the social and industrial frame. A calming hand might thus be laid upon the feverish ambition and cupidity which, amidst the exciting influences of a new commercial country, threaten alike the virtue and the happiness of society.

I need not dwell upon the effects of drill and of regular and rythmical movements which have a certain influence on character, or on those of decorations, pictures, and so forth, which give effect to character through the taste. But I would say one earnest word in favour of music, all the more as it was unhappily not taught in English boys' schools when I was a boy. Surely it is an influence greatly needed by human nature everywhere, and above all in those restless, eager, hard gold-digging communities in the New World. That the love of music need not interfere with practical energy, the land of Bismarck and Von Moltke is a proof. It conduces to domesticity, and it may supply one-antidote to that most fatal of all the plagues that have ever ravaged humanity—the growing passion for strong drink.

There is no use in pitching anything too high. The first duty of a school must be to teach the elementary subjects which it purposes to teach, and by its results of that kind the school must be mainly judged. But the moral effects are not to be left out of sight. We must remember, and in times like these it behoves us especially to remember, that we are training not only the trader or the mechanic, but the Canadian and the man."

INDUSTRIAL SCHOOLS.

BY MR. SAMUEL M'ALLISTER, HEAD MASTER JOHN STREET SCHOOL, TORONTO.

In the last report of our Chief Superintendent we are told there are 38,000 children, between the ages of five and sixteen, in our own Province who do not attend school; and of this number there are 12,000 between the ages of seven and twelve, which are the limits fixed by the late

School Act for compulsory attendance. Amongst these children may be found many who lack natural guardians, many whose guardians are indifferent or wilfully opposed to their correct training, while others again have guardians whose intentions are good, but who lack the power of exercising a wholesome control over them, and allow them to drift, if they do not drive them, into vicious courses. No doubt a considerable portion of our uneducated classes grow up, despite their disadvantages, to lead honest and useful lives, as indeed is shewn by the large number who have still to "sign" their names by the simple cross, but our police statistics show what a vast proportion goes to swell the ranks of our criminal population. A majority of our criminals have had little or no education, and a large number of them have been brought up to no industrial employment, so that vice walks hand in hand with ignorance and idleness. But it is by slow gradations that criminals are formed. Uncared-for children, when allowed to roam

"In unrestrained pleasure free,"

soon adapt themselves, in the absence of either education or employment, to the habits of their vicious companions of the streets and highways.

"Vice is a monster of such hideous mien,
That to be hated needs but to be seen ;
Yet seen too oft, familiar with her face,
We first endure, then pity, then embrace."

It would be vastly more profitable for the State if these children were taken charge of, and by appropriate industrial training enabled to grow up as useful plants, rather than allowed to infest society as noxious weeds. Hitherto, however, the State has acted upon the principle that cure is better than prevention, and allowed our dangerous classes to fall into her hands as criminals before recognizing any duty to them as children of the State. They are then subjected to a course of prison discipline, of longer or shorter duration according to the offences committed—the shorter the better so far as our younger criminals are concerned, for from the absence of classification, of correct discipline, of checks to communication, of useful employment, the liberated prisoner, instead of being like the man who sat at Jesus' feet, "clothed and in his right mind," is more likely to resemble the proselyte of the Pharisees—made two-fold more the child of hell than he was before. That our present prison system not only causes no reformation in the culprit but does not even prevent crime, is shown by the statement of the Prison Inspector, that one-third of the gross commitments are re-commitals.

It is to be hoped that our new Central Prison will accomplish all that is promised for it in effecting a reformation in our convict class ; or at all events, that it will enforce profitable and continuous labour on its inmates, so as to convert them, while within its walls at least, into workers instead of drones.

I have taken some trouble to ascertain the cost of prisoners in our gaols, and this trouble has been increased by gross and unaccountable errors in the last report of the Prison Inspector ; for example, the average cost per prisoner on entire gaol expenditure for the county prisons is put down at \$15 40 for 1871-2, while the data show that it should be \$28 26. This, divided by the average number of days for which each prisoner was committed, gives \$1 06 per head per day, or \$7 42 per week, as the cost

of maintenance. And this is but an item of the expense that criminals cause; no account is taken of police expenditure, of the cost of our law courts, &c. On the whole, the State pays a good round sum for restraining this class from preying upon society or disturbing its peace. As it is largely recruited from vagrant and neglected children, it is worth while seriously to inquire into the best method of preventing them from swelling its ranks. Compulsory attendance at school will not do it; for during the eighteen hours they are out of school, what can deter them from returning to their vicious associations of the street? Then there would be the difficulty of providing proper food and clothing to be overcome, beside the objection of parents to have their children associate with such questionable companions. In fact the only effective method of dealing with these children is by placing them in an Industrial School, where they will be completely isolated from their previous evil surroundings, will be taught habits of cleanliness and order; be subjected to strict though kindly discipline; receive a fair amount of mental training; and, what is quite as important, be taught habits of industry, by being instructed in some skilled employment by which they may be enabled to earn an honest and useful livelihood.

This plan has been tried with the best results in the States. Owing to the courtesy of Mr. W. B. McMurich, a member of our City Board of Trustees, I have been enabled to consult the reports of various institutions of this kind, and I find that about seventy-five per cent. of those who left the Massachusetts Industrial Schools are reported by the visiting agent as doing well; his special duty being to keep track of scholars after they leave the school. In England and in Philadelphia over two-thirds are reported as doing well after they leave school. The inmates of the New York Schools are committed by magistrates for petty offences; those in the Massachusetts Schools are of the same class, together with habitual truants; while in Philadelphia some are committed as vagrants, some for petty offences, and about one-third are committed upon the representation of parents or guardians that they are unable to manage them. The average age of the inmates varies from twelve to fourteen years; the length of time they stay in also varies according to their fitness to be dismissed. Most of the institutions are conducted on non-sectarian principles; and besides imparting to the children the rudiments of education, they give them a knowledge of some handicraft, the chief for boys being shoe-making, brush or broom making, chair seating, blacksmithing, tailoring and farming; for girls, the various domestic employments, and sewing. Parents and guardians lose all control of their children when they are placed in these establishments, that being vested in the authorities of the school. None of these institutions are self-supporting, but the following table will show how much the expenses are decreased by the labour of the inmates:—

	Actual Cost per pupil per week.	Decreased by Labour to
Western House of Refuge, Rochester	\$2 60	\$1 95
New York House of Refuge	2 21	1 24
Philadelphia House of Refuge	2 47	1 45
Massachusetts State Establishments	3 00	Not given.

Thus, at an average cost of say \$1 55 per week, a large number of boys and girls are rescued from a life of ignorance, idleness, poverty and crime, and made useful members of society.

We have no institution in Ontario corresponding to those in the States, the Reformatory at Penetanguishene being, as the Prison Inspector deprecatingly says, essentially a prison and not a school.

Since the passing of the late School Act there have been very few serious attempts made by Boards throughout the country to carry out the compulsory clause, which in itself amounts to little more than a recognition of the principle of compulsion. Compulsory attendance should be extended to the whole year in cities and towns, and for children up to ten years of age in the country. Even with this improvement few Boards would be found prepared to incur the expenditure for the establishment of an Industrial School, which would be inevitably required by a rigid enforcement of the clause. Yet where all are taxed for general education, it is the duty of the State to see that all are educated. This can only be done, as matters at present stand, by the Government taking the initiative, and establishing a Model Industrial School on nearly the same plan as the Philadelphia House of Refuge, open to children from all parts of the Province. If necessary, let a certain rate per week be charged, as in Massachusetts, upon all municipalities that send children to the school, and let these be empowered to collect the same from the parent. Let each School Board be held strictly responsible for carrying out the compulsory clause. One large school could be worked with much less expense than numerous small ones, and there would be a better chance of organization and classification.

It will not be denied that the establishment of such an institution comes more within the province of the Government than that of an asylum for drunkards or for idiots: it is quite as much the duty of the Government to attend to the training of neglected children as it is to establish institutions for the deaf, dumb and blind. We feel the necessity for such a school in Toronto, and our Board of Trustees some time ago sent a deputation of its members to the United States to collect information preparatory to the establishment of an Industrial School here. The deputation brought back much valuable knowledge, some of which I have been enabled to lay before you. One of the first results of their action was the appointment of a Truant Officer, whose duty it is to look after absentees and those habitually late, and to explain the law under which he acts to the parents of such. So far he has been successful; and I have not heard of one case in which a parent showed any disposition to either evade or defy the law. But there his usefulness stops. If he tries to enforce the law in any refractory case there are numerous loopholes to escape, and there is no institution to which he could have vagrant children or habitual truants committed. Many of the vagrant children too are Roman Catholics, over whom he has no jurisdiction. He has found many parents who would be glad to have the same privilege as those in Philadelphia, of entrusting children whom they are unable to manage to the care of an institution which would assume the duties of a parent, and they would willingly pay a reasonable fee for this.

The existence of so many uneducated children in our midst is a blot on our educational system which must sooner or later be wiped out; and the man who succeeds in doing this, whether by the establishment of such Industrial Schools as are here recommended, or other efficient means, will deserve as well of his country as the founder of the Public School system itself.

TOWNSHIP BOARDS VERSUS SCHOOL SECTION BOARDS.

 BY JAMES TURNBULL, B.A., HEAD MASTER OF THE HIGH SCHOOL, CLINTON.

In introducing the subject of Township Boards *versus* School Section Boards, it would be unjust to ignore the benefits which School Section Boards have in many instances conferred upon the country. In many localities we find substantial and comfortable school houses, with perhaps not all the accompaniments necessary to a complete outfit, but still with enough to enable the skilled teacher to discharge the duties of his office with a considerable degree of comfort to himself and satisfaction to the ratepayers. In some sections we even see the teacher's residence standing in close proximity to the scene of his labours, a modest and unassuming structure, but containing all that is necessary for his comfort. Liberal salaries are also paid in some instances, and the teacher is retained for eight, ten, or twelve years. But this is the bright side of the picture; and while we are pleased to note signs of life, energy, and openhandedness in dealing with the instructors of youth on the part of many School Section Boards, we are also grieved to know that many a deserving teacher has been literally starved out, and his personal comfort and convenience sadly neglected, and the best interests of education quite forgotten. Instances of mistreatment of teachers, mismanagement of school affairs, disregard for the comfort and health of pupils, utter neglect to cultivate anything like the higher feelings of the children, and the total lack of the æsthetic element in the school and its surroundings, could be multiplied beyond number. The principle of Township Boards has formed a part of our school law for upwards of twenty years. In the year 1850 it was enacted that any township could form such a Board on its obtaining the votes of a majority in each section in the township, and under this provision one Township Board was actually established in the County of Lambton; still, it must be evident that under such a law the formation of such Boards is almost impossible. Such being supposed to be the case, a change in the Act has been introduced, and now a Township Board is rendered possible by obtaining a majority of the votes in at least two-thirds of the School Sections of the township. We say rendered possible, because, after it has obtained the majorities above-mentioned, the Township Council have the power of veto, and may thus overrule the votes of the ratepayers. Why more Township Boards have not been formed is owing partly to the unfortunate restriction in the law just alluded to—to the indifference of the people—to a conservative feeling on the subject held by all, both conservative and reform—to a vague fear of non-improvement by the change—and, lastly, to the tenacity with which the present Trustees hold on to office, not for the sake of the honour connected with the position, but the prestige which it offers. As economy is commonly the platform upon which would-be councillors go to the people, and as the proposed system is supposed to entail some expense, these men are naturally averse to change. We may infer, then, that no matter how great an advantage the Township Board system

may have over the School Section system, nothing like universality of adoption must be looked for unless the Legislature step in and make the change compulsory, as was done in the case of free schools. We shall not enter into the deficiencies of the School Section system, but shall bring forward very briefly the objections which have been advanced against Township Boards, and the advantages to be derived from their adoption. The first objection is that the people have not asked for the measure. For the same reason free schools should not have been made compulsory, and many of the best provisions of the school law would still remain to be enacted. It is doubtless very desirable that the people should look before them, and ask for those changes which they deem necessary for the educational good; but the fact is, that in Ontario at least, the people have not, as a rule, anticipated those at the head of the educational affairs of the Province, but have been, to a great extent, led by a few who have made the subject a special object of study. Another difficulty is the division of school property in each township. This, if once overcome, cannot occur a second time. The only fair way would be to have an accurate account of all the property in each School Section, upon which to base all future monetary transactions in connection with the building of new school houses, repairs, and all such items of expense. An objection has been made to the proposed change, which is, that the wealthier parts of the township will have to assist the poorer portion (if such there be) in maintaining equally good schools in all parts of the municipality. If the cause of education is going to be bettered by this, I look upon it rather as an advantage than a disadvantage, and, besides, the principle is already recognized in the school law of the Province, in connection with the system of free schools. Again, it may be said that under the Township Board system the Trustees elected may not be so situated in the township as to feel sufficiently interested in all the sections so as to do equal justice to all parties. If the township is divided into wards, say five, there could be one in each ward, as in the case of township councillors; and if not divided, the people could still elect the Trustees in such a manner as to secure even-handed justice, and it would surely be both their duty and interest to act in this way. To say that three men in each section would take more interest in the affairs of the school than five men in the whole township, is an assertion which a trial of the proposed system can only prove or disprove; but it is evident that the proposed Township Trustees could scarcely show less interest in their respective schools than the present boards do. The difficulty in the way of the formation of Township Boards lies with those who ought to initiate the change, viz., the present Trustees and Township Councils, but these are slow to do so; the former through fear of the loss of power and influence, and the latter through the fear of losing office by the supposed extra expense to be incurred. That a change from the present to some other system is necessary, seems to be a foregone conclusion with all, or nearly all, the educationists in Ontario. The question is, what should be done? Some have proposed to equalize the assessment throughout the township to give to each School Section a fixed sum, say \$400, and allow the Section to make up what is necessary to pay all the expenses, and in this way assist the weaker at the expense of the stronger. I am not prepared to say whether this would be any improvement or not

as the main advantage simply seems to be the assistance of the weaker sections. The Township Board system seems to meet with more approbation. Some of the advantages of the proposed system will now be briefly stated. Economy in the management is evidently one of these. At present a township containing twenty sections requires the services of sixty persons to manage its school affairs. We continually hear the ratepayers talking about the difficulty of finding suitable persons to fill the office of School Trustee, and particularly the position of Secretary; the case I have instanced requiring no less than twenty secretaries. It may be said that as the country improves in material wealth and education that the difficulty, so far as this is concerned, will be much smaller than at present, but we may safely infer that it will always exist to a considerable degree. Now, under the proposed system, it is proposed to select five suitable persons for the whole township, with one Secretary, and the Treasurer of the Township could also be Treasurer of the School Board. In a township with twenty schools each Trustee would have four schools under his more immediate attention, situated in a small area around him, if properly located by the votes of the ratepayers. In this way a great saving would be effected in the management of the schools, and we have no reason to infer that less interest would be shown by these Trustees than is shown at present. The abolishing of School Section boundaries would also be another benefit to be derived from the proposed change. There is no question which perhaps occasions more trouble than that of School Section boundaries, and it also frequently happens that a pupil has to walk several miles to attend the school in his own section, when he could reach the school of the neighbouring section in a few minutes. The abolishing of School Section boundaries will do away with all this inconvenience; throwing open all the schools to the pupils, not absolutely, but under certain wholesome regulations. Economy in school accommodation will eventually follow as a result of the introduction of Township Boards. At present, in many townships, if the schools were properly located, some might be dispensed with, and thus not only the expense of building, but also keeping in repairs, would be obviated, and the number of teachers would be sufficient for the wants of the people and nothing more. Uniformity in school management, as to classification and grading, would arise in the course of time, and the labour of the Inspector very much lessened, and the efficiency of the schools materially improved. A species of Normal and Model School for the Township could also be had, situated in a central position, to which the pupils could be promoted after reaching a fixed age and on being subjected to a thorough competitive examination, thus instituting a system of grading throughout the township and also the principle of competitive examinations. The continuity of the teacher in the same situation will be greatly increased by the proposed change. It too frequently happens, at present, that an efficient teacher is either compelled to leave his school by the direct action of the Trustees, or by their indirect action compelled to resign and go elsewhere, oftentimes very much to the injury of the school, and not at all tending to raise the position of the teacher, either in his own estimation or that of others. This feature of the present system tends to cause young men to make a stepping-stone of the profession, who might, under a more genial atmosphere, be tempted to remain and make a business of teaching

for a large portion of their life. The five Trustees proposed will be, in a great measure, free from the local feeling which often actuates the present Boards, and thus the teacher will have an impartial tribunal, from which he will obtain justice, which is all he ought to expect or desire. With the permanency of the teacher in his position, the increased efficiency of the school must also follow as a necessary consequence, it being a well known fact that every change of teacher keeps the school back at least three months. Under the present state of things a teacher's residence is seldom to be seen, the reasons for which are not difficult to be found, the chief one being the insecurity of School Section boundaries, Trustees not feeling inclined to do any more than is absolutely necessary by way of permanent improvements; but when this difficulty is removed by the institution of Township Boards, there will be no excuse on this score. Another reason is the parsimony and short-sightedness of those in authority. Teachers' residences, then, are next to impossible at present, but by the proposed change they are rendered (to speak mildly) highly probable. Not the least of the advantages of this system is the payment of teachers' salaries quarterly instead of receiving the Government and Municipal grants during the year, and the remainder of his salary at the end of it. In some of the cities of the United States the salaries are paid monthly. Although it may be said that some teachers do not suffer much inconvenience under the present method of payment, still many do suffer inconvenience, and that is not the question at issue. When a wholesale merchant sells goods on credit he charges interest, if not directly at least indirectly, and if cash is paid down a high discount is allowed; but the teacher in rural sections lies out of a large portion of his salary for several months without any equivalent whatever. When the Treasurer of the Township becomes the Treasurer of the Board for the Township, then quarterly payments can be made without any inconvenience. The example of our neighbours in the United States is not to be overlooked. In many of the States of the Union Township Boards have been established with excellent results, and in the State of New York an approximation has been introduced, which consists in the union of several Sections under a united Board. That these Boards are beneficial in their results is one thing, and that no attempt has ever been made to go back to the old system, also tends to show that the people are satisfied, and that the measure is an improvement on the present method of management. There being only one Board in each township would give the inspector an opportunity of attending their meetings, and giving such information as would enable them to administer school affairs more efficiently. He could attend one meeting of each Board each year, a thing which is impossible at present. This would lead to a joint understanding and common action on the part of Trustees and Inspectors, which would produce very beneficial results. The regular meetings of the Township Boards might be held quarterly, and I would say not more frequently, and for each regular meeting they ought to be paid in the same manner as Township Councillors, that is, \$2 per diem. One Secretary will do for each township, and the Township Treasurer can do duty for the School Board by increasing, if necessary, the amount of his bonds by way of security, and thus the management of the schools would be materially simplified. I have thus very briefly and somewhat imperfectly

mentioned a few of the objections to the proposed change, and some of the advantages which must follow in the wake of its introduction; and I would say in conclusion that I believe the teacher will be the first to feel the direct benefit of the change in increased permanency in his situation, —higher salary and prompt payment; and last, but not least, a comfortable house, and more comfort generally in the work of the school and in his own family. Much has been done in the interests of education in this noble province. We occupy as teachers even now, in some respects, an enviable position. Our influence is beginning to be felt even in the councils of the nation, and is having considerable weight in our legislative halls. Let us then unitedly go on keeping pace with the progressive spirit of the age, and each in his own humble way lend a hand in the furtherance of the world's moral, intellectual and physical prosperity.

THE UNSUITABLENESS OF EUCLID AS A TEXT-BOOK OF GEOMETRY.—[SYNOPSIS.]

BY THOS. KIRKLAND, M.A., SCIENCE MASTER, NORMAL SCHOOL.

I contend that there is strong presumptive evidence against the value of Euclid as a text-book from the following facts: That it has been virtually abandoned on the continent of Europe and in the United States, being retained mainly in England and Canada; that it was written nearly 2,000 years ago, and therefore must be very imperfect on account of its not embodying late discoveries; and that it was not intended to serve the purpose of an elementary text-book at all. The faults of Euclid, then, may be grouped under the following heads: Phraseology, Method, Matter, and Particular Doctrines.—The phraseology is objectionable as being verbose, especially in the definitions, as well as stiff and formal; the nomenclature is antiquated and infelicitous; and Euclid is faulty for want of generalization in the use of terms. His method is impaired by the undue limitation of the number of his first principles, by the rejection of hypothetical constructions, and the refusal to examine the properties of a figure before the construction is actually effected; by the neglect of the method of superposition, of which he might, with advantage, have made more use; by there being no explanation given why any particular course is adopted; and by the absence of very proper classification. Such fundamental defects cannot be remedied by an annotated Euclid, or Euclid with a commentary. They strike at the very root of the matter, and necessitate treatment of the subject, for beginners, on different principles and by different methods.—In Matter, Euclid has erred in his first principles, both on the side of excess and defect. Some of his definitions are mere statements; others are not definitions at all, as they do not explain the terms; others are mere verbal definitions; while others are properly theorems. Defects are in both postulates and axioms, while the elements

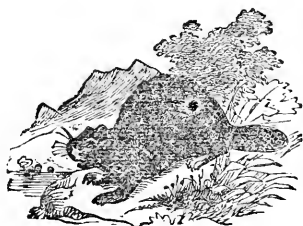
contain a considerable number of superfluous propositions, while omitting some which should have been included. In many cases the proof might be simplified by adopting a different mode of demonstration.— Under the head of Particular Doctrines the deficiency in Euclid's treatment of angles, parallels, and proportion is remarkable. The definition of an angle should have been made to include angles equal to and greater than two right angles. The many attempts made to improve upon Euclid's treatment of parallels show that it has always appeared unsatisfactory to mathematicians. His definition of proportion is unnatural and a violation of common sense. In opposition to those who argue in favour of retaining Euclid as a text-book, I urge that the pressure of educational work is too great to admit of teaching errors merely for the purpose of correcting them; and in many cases the errors will remain fixed in the learner's mind while the corrections are forgotten. The practical objections to Euclid are many. Prominent among them is the discouragement entailed on beginners by the use of so defective a text-book. Boys may learn Euclid without becoming proficient in geometry, as they often failed in the application of principles, their failure being due largely to his defective method, while the mastery of his text takes up so much of the pupil's time that very little is left for acquiring a knowledge of practical geometry. Against the argument that Euclid supplies an admirable mental discipline, it may be urged that the acquisition of knowledge and mental training are rather separable in idea than in fact, while geometry, taught by a proper method, can be made equally available as a means of disciplining the intellect, while the knowledge of the science was far more readily and accurately acquired. Moreover, it is questionable whether the study of Euclid is such an excellent training for the reason, inasmuch as the type was imperfect. While his argument was ever faultless, inflexible, incapable of reply, it was conveyed with unnecessary prolixity and verbosity, and with a stiffness of form which is never found in scientific reasoning or in common life. No one will, I hope, think that since I have opposed Euclid as a text-book I am opposed to geometry as a branch, and a very important one, of education.

MESSRS. JAMES CAMPBELL & SON

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MINUTES
OF THE
FOURTEENTH ANNUAL CONVENTION
OF
THE ONTARIO ASSOCIATION
FOR THE
ADVANCEMENT OF EDUCATION ;
HELD IN THE
THEATRE OF THE NORMAL SCHOOL BUILDINGS, TORONTO,
ON TUESDAY, AUGUST 11TH, 1874.



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TUESDAY, THE 11TH OF AUGUST, 1874.

The President, Professor Goldwin Smith, in the chair.

At half-past three o'clock in the afternoon, Archibald Macallum, Esq., M.A., at the request of the President, read a portion of Scripture, and led the Convention in prayer.

The Roll of Officers was called by the Secretary.

The Minutes having been printed, were held as read.

The Secretary read communications from E. Ryerson, D.D., LL.D., Chief Superintendent of Education for Ontario; from the Very Reverend Principal Snodgrass, Queen's University, Kingston; from R. A. Fyfe, D.D., Principal of the Canadian Literary Institute, Woodstock; and from the Reverend Professor Young, University College, Toronto, setting forth that, for various reasons, the writers could not address the Convention this year.

Moved by Archibald McMurphy, seconded by J. B. Dixon, Esq., M.A.,

That the hours of meeting during this Convention be from 2 to 5 p.m.; from 7.30 p.m. to adjournment; the forenoon of each day being for Committees and the different Sections of the Association.

As none of the Delegates were prepared to report on behalf of Local Associations, the Convention adjourned, to meet at half-past seven.

EVENING SESSION.

The Association met according to adjournment; the 1st Vice-President, J. B. Dixon, Esq., M.A., was called to the chair.

The President delivered his Address, at the conclusion of which Archibald Macallum, M. A., moved, and Dr. Kelly seconded,

That the cordial thanks of this meeting be and are hereby tendered to our President, Professor Goldwin Smith, for the able, interesting and eloquent Address with which he has this night favoured us.

The following Delegates reported on behalf of their Associations:—

- Mr. David Johnston, Northumberland.....
- “ Robert Ferguson, Huron
- “ Jas. Wilkinson, Brant
- “ Jno. Faulkner, Wentworth
- “ John Irwin, Hastings.....
- “ E. B. Harrison, Thames Teachers' Asso'n..
- “ Robert Alexander, North York.....
- “ A. C. Steele, Perth.....
- “ W. Woodward, Waterloo
- “ William Macintosh, North Hastings.....
- “ S. Groat, East Middlesex
- “ R. Coats, Halton.....

The Chair announced that the different Sections were to meet at 9 o'clock in the morning on the day following.

August 12th.

The President in the chair.

Mr. Watson opened the Convention by the reading of Scripture and engaging in prayer.

Minutes read and confirmed.

Dr. Kelly then proceeded to read his Paper on “Where do we Stand?”

Moved by Mr. Wm. Macintosh, seconded by Thos. Kirkland, Esq., M.A.,

That the hearty thanks of this Association be accorded to Dr. Kelly for the very able, interesting and instructive Paper just read by him.

The Treasurer, Mr. McAllister, read his Report, which showed that the affairs of the Association are in a most satisfactory state.

Mr. R. Alexander moved, and Mr. ——— seconded,

That the Report be received and adopted, and that the Chair name an Auditing Committee to examine the Treasurer's statement.

The Chair named Dr. Kelly and R. Alexander as the Auditing Committee.

Mr. McAllister reported verbally on behalf of the Industrial School Committee, and moved, seconded by Wm. Watson, Esq.,

That the Industrial School Committee for the current year consist of Messrs. Groat, Macallum, Hughes, and the mover.

The Auditing Committee reported that they had carefully examined the Treasurer's accounts and found them correct.

Mr. R. McQueen read his Paper on "The Antiquity and Dignity of the Public Teacher."

A vote of thanks was tendered Mr. McQueen for his carefully prepared Essay; moved by Mr. Husband, seconded by Wm. Watson.

The Secretary called the attention of the Association to the time of meeting, and after a short discussion it was agreed to bring the matter before the Convention again in the evening.

EVENING SESSION.

The President in the chair.

Professor Wilson delivered an admirable Lecture on "The Place of Science in Education."

Moved by Mr. McAllister, seconded by Mr. S. P. Groat,

That the hearty thanks of this Convention be given to Professor Wilson for his eloquent and instructive Lecture.

The President then directed the attention of the Convention to the time of holding the Annual Meeting of the Association.

After considerable discussion, the following motion was made:

Moved by R. Alexander, seconded by S. P. Groat,

That a Committee be appointed to consider the expediency and the practicability of obtaining an extension of the Easter holidays, for the purpose of enabling the Annual Meeting of the Association to be held at that time, and to report to the next meeting of the Association.

In amendment, it was moved by David Johnston, seconded by J. A. Clarke,

That the question of altering the time of holding the meetings of the Association, and of extending the Easter holidays, be referred to the Local Associations.

Upon the vote being taken, the motion was carried.

After several announcements had been made, the Convention adjourned.

August 13th.

The President in the chair.

The Rev. Geo. Grant, M.A., opened the Convention by the reading of a portion of Scripture and engaging in prayer.

Minutes were read and confirmed.

Mr. Glashan, who was to have read a Paper on "Certain Theories of Education and the Methods founded on them," explained that, owing to the short time he had to prepare and the work he had to do, he was unable to read a Paper on the subject he had selected.

"The Co-Education of the Sexes" was introduced by J. M. Buchan, Esq., M.A., Inspector of High Schools. The Essayist treated the subject in an able manner.

A spirited discussion followed, in which the following members took part, viz., Messrs. W. Carlyle, J. B. Dixon, Kirkland, G. Grant, Dr. Kelly, Glashan, Campbell, Tamblyn, Groat, E. Scarlett, McMurchy and Macallum.

A vote of thanks was cordially given to Mr. Buchan for bringing this important subject before the Convention.

On motion, it was resolved that the appointment of a Committee to consider the advisability of a change of time for the Annual Meeting of the Association be left to the Executive

Committee. (Committee appointed: Messrs. R. Alexander, David Johnston, R. Ferguson, J. A. Clarke, S. P. Groat.)

The Report of the Executive Committee on the Nomination of Officers for the ensuing year was read by Mr. William Macintosh.

The Report was received, on motion of Mr. Macintosh, seconded by Mr. Macallum.

The adoption of the Report was moved by J. M. Buchan, M. A., seconded by R. Dawson, B. A., both mover and seconder speaking in complimentary terms of the officers of the Association.

List of officers of the Association for the year 1874-5 :—

President—Professor Goldwin Smith, M.A.

1st Vice-President—M. J. Kelly, M.D., Inspector of Brant.

2nd “ D. I. Johnston, Esq., Cobourg.

3rd “ Jas. Turnbull, Esq., B.A.

4th “ Ed. Scarlett, Esq., Cobourg.

5th “ Wm. Watson, Esq., Weston.

6th “ Dr. Thorburn, Ottawa.

Corresponding Secretary—Thos. Kirkland, Esq., M.A.

Recording Secretary—A. McMurphy, Esq., M.A.

Treasurer—Samuel McAllister, Esq.

The Secretary read a note from Dr. Tassie, explanatory of his inability to introduce the subject which he had intended to discuss in the Convention.

The Secretaries of the different Sections presented the Minutes of the proceedings of each Section; and upon each stating that there was nothing calling for special notice, the Minutes were ordered to be printed.

Mr. Macintosh moved, and Mr. Hughes (Inspector) seconded, votes of thanks to the Education Department for the use of the Normal School Buildings during the Convention; to the Grand Trunk, to the Great Western, to the Northern, to the Midland, and to the Toronto, Grey and Bruce Railways, for granting reduced fares to members of the Association; and to the Press, for the full and accurate reports of the proceedings.

The Convention adjourned, joining as usual, in singing the National Anthem.

ARCHIBALD MCMURPHY,
Secretary.

PROCEEDINGS OF PUBLIC SCHOOL SECTION.

WEDNESDAY, *August 12th, 1874.*

First Session held this morning at 9 o'clock—Mr. Watson, Chairman ; Mr. Dickenson, Secretary.

Mr. McQueen opened the meeting with prayer.

Minutes read and approved.

Report of Executive Committee received and adopted.

Report of Committee appointed to wait on Attorney-General received ; and on motion of Mr. Cushnie, seconded by Mr. Henderson, a vote of thanks was tendered the Committee for their services.

Under the order of new business, the following resolution by H. Husband, seconded by Mr. McCulloch, was introduced for discussion :

Resolved, that the holding of examinations of Public School Teachers annually is a retrograde step, inasmuch as the effect of it will be to increase the number of interim certificates, and consequently to lessen the number of duly qualified teachers.

After a lengthy discussion, it was moved in amendment by H. Dickenson, seconded by John Dearness,

That the late change making annual take the place of semi-annual examinations be approved of.

Amendment carried.

Moved by D. Maxwell, seconded by John Dearness,

That whereas it is desirable that the school year should commence with the midsummer term, also that it is unjust to give students of any institution advantages not enjoyed alike by all candidates for examination ; be it resolved, that all candidates for Public School Teachers' certificates shall be examined on the same questions and at the same time during the midsummer holidays.

In amendment, it was moved by H. Dickenson, seconded by F. Kantel,

That we cannot approve of the holding of two examinations in the summer; that we can only approve of the holding of separate examinations for Normal School students at the close of the last half of each year, as long as the half-yearly sessions of the Normal School continue; and as a solution of the difficulty, we would suggest the lengthening of the Normal School Sessions to one year.

An amendment to the amendment was introduced by Mr. Campbell, that no special examination be held for Normal School students at the close of any session.

THURSDAY, *August 13th, 1874.*

Mr. Husband opened second session with prayer.

Minutes read and confirmed.

Resolution and amendments of the previous session left on table were again brought up for discussion, when Mr. Dickenson's amendment was carried.

Moved by Mr. Dearness, seconded by Mr. Irwin,

That we recommend the printing of the value of each question on the examination paper presented to candidates.—Carried.

Moved by D. Maxwell, seconded by John Dearness, and

Resolved, that it is absolutely necessary that all Provincial Certificates should be granted by the Central Committee of Examiners only.—Carried.

Moved by John Campbell, seconded by D. A. Maxwell,

That this Section is of opinion that no *limit time* table can be constructed which can be practicable in *all* grades or classes of schools, and recommends that the Council of Public Instruction construct a distinct *limit* table, suitable for *each* grade of school in city, town and rural districts.—Carried.

Moved by D. Maxwell, seconded by H. Dickenson, and

Resolved, that teachers holding third-class certificates from one county should not be admitted to third-class examination in another county except on recommendation of the Inspector of the county in which the former certificate was obtained.—Carried.

Moved by D. A. Maxwell, seconded by Wm. Rannie,

That Interim Certificates should not be granted in any county where there is already a sufficient number of certificated teachers.—Carried.

Moved by John Dearness, seconded by A. C. Steele,

That the Secretary forward the resolutions passed at this meeting to our representative when elected.—Carried.

The following officers were elected for ensuing year :

Chairman—D. A. Maxwell, Chatham.

Secretary—H. Dickenson, Brantford.

Executive Committee—Messrs. Dearness (Strathroy), Campbell (Toronto), and Irwin (Belleville), together with the Chairman and Secretary.

PROCEEDINGS OF INSPECTORS' SECTION.

The Inspectors' Section of the Ontario Association for the Advancement of Education met in the Library, Victoria Square, at 9 a.m., Wednesday, 12th August, 1874.

In the absence of the Chairman and Secretary, Mr. Scarlett, of Northumberland, and Mr. Brown, of Peterborough, were, on motion, appointed to fill these offices respectively.

Mr. Groat moved a resolution appointing a Committee to report on School Legislation. Dr. Kelly and Mr. Harrison spoke against the motion, and Mr. Macallum in favour of it. The motion was lost.

Dr. Kelly and Messrs. Harrison and Macintosh were appointed a Business Committee, to report on the following morning.

Dr. Kelly moved, and Mr. Brown seconded, that Thomas Moss, Esq., Q.C., M.P., be Inspectors' candidate for representative on the Council of Public Instruction. After a desultory discussion the motion was withdrawn.

The Chairman appointed Messrs. McKinnon, Groat, Hughes and Macallum, and Dr. Kelly, members of the Board of Directors.

Moved by Mr. Brown, seconded by Dr. Kelly, that Messrs. Little, McKinnon, Harrison and the seconder, be a Committee to report to-morrow morning on "The Regulations of the Council of Public Instruction." The motion was carried.

There was also an irregular discussion on Teachers' Third Class Certificates, but no definite action taken.

The Section rose.

THURSDAY, *August 13th, 1874.*

The chair was taken at 9 a.m.

The Report of the Committee on "The Regulations of the Council of Public Instruction" was read and received. The following clauses of the Report were adopted:—

1. That a minimum of at least 40 % of marks be required on each of the subjects of Grammar and Arithmetic from Candidates for Third Class Certificates.

2. That the time for which Third Class Certificates be endorsed shall extend only to the next meeting of the Board of Examiners, and that Certificates be endorsed for the balance of time they have to run upon their holders passing the Annual Examination.

3. That it be left discretionary with the Board of Examiners to renew for one, two or three years, Third Class Certificates which have expired, upon the Candidates passing the Annual Examination.

4. That First Class Candidates write for their Certificates at the same time with other Candidates.

5. That there be a separate paper on Etymology.

Moved by Mr. Ross, and seconded by Mr. Glashan, that Mr. Little be requested to prepare a paper to be read before this Section at the next annual meeting of the Association, on "What constitutes a thorough Examination of a Public School?" The motion was carried.

Moved by Mr. Ross, and seconded by Mr. Glashan, that Messrs. Hughes, Macallum, Hodgson, Johnston and McKinnon form the Executive Committee. The motion was carried.

Moved by Mr. Scarlett, and seconded by Mr. Hughes, that Mr. Macallum be Chairman and Mr. Brown be Secretary of this Section of the Association for coming year. The motion was carried.

The Section rose.

JAMES COYLE BROWN,
Secretary.

PROCEEDINGS OF HIGH SCHOOL SECTION.

WEDNESDAY, *August 12th, 1874.*

The High School Section met in their room this morning at half-past nine o'clock.

J. B. Dixon, M.A., of Peterborough Collegiate Institute, was appointed Chairman, and H. J. Strang, B.A., of Goderich High School, was appointed Secretary.

Mr. Anderson called attention to the fact that last year, in appointing the High School Committee, the clause of the constitution which requires one of the five members of the Committee to be selected from either of the other two Sections was not complied with.

Mr. Mills brought up the question of entrance examinations, and a general discussion followed in regard to the number of such examinations, and the time at which they should be held. Finally it was

Moved by Mr. Seath, seconded by Mr. Mills,

That in the opinion of the High School Masters' Section it is advisable to hold each year hereafter an examination for entrance into the High Schools, at some convenient time in October, in addition to those at present prescribed for January and June.

Moved in amendment by Mr. Strang, seconded by Mr. Oliver,

That the members of this Section assent to the plan of having in future only two entrance examinations in the year, viz., in June and December, but that this year, in view of the insufficient notice given of the change, they consider it highly desirable that a supplemental examination should be held some time in October.

The amendment having been put and lost—only three voting for it—the motion was then put and carried.

Mr. Douglas then brought up the question of the desirability of having greater uniformity in the subjects of examination, more especially classical and French, prescribed by the various Colleges and Universities, and Legal and Medical Faculties. Finally it was moved by Mr. Tamblyn, and seconded by Mr. Mills,

That since the great diversity of books in the same subjects prescribed for entrance into our various Colleges and Professions causes much unnecessary work to the teachers in our High Schools, and puts the Candidates to considerable expense, the High School Section of the Ontario Association would respectfully and strongly urge upon the governing bodies of the various Colleges and learned Societies the desirability of having, as far as possible, uniformity in the books and subjects of examination.—Carried. (See page 14.)

Moved by Mr. Ballard, and seconded by

That in view of the coming election for the representation of High School Masters in the Council of Public Instruction, the Candidates be respectfully requested to appear before the High School Section at 11 a.m. to-morrow, and give their views on the various matters affecting our High Schools, and that the Secretary be requested to notify them to that effect.

The Section then adjourned, to meet again in the same place to-morrow at 9 a.m.

August 13th.

The Section was called to order by the President at 10 o'clock.

Mr. Strang being absent, Mr. Alexander was appointed Secretary *pro tem*.

In the absence of the Minutes, the first order of business was the reading of a communication from Dr. Wilson to the Secretary, respectfully declining to appear as a Candidate before the High School Section.

The Secretary having arrived, the Minutes were read and a discussion followed in regard to their correctness. Finally it was agreed that the following statement should be inserted between Mr. Tamblyn's and Mr. Ballard's motions :—

“The Chairman, under the impression that the business of the morning was finished, declared the meeting adjourned. A few members then left, but the great majority having remained, at their request the Chairman resumed the Chair, and the following motion was then made and carried *nem. con.* :—

“Moved by Mr. Tamblyn, and seconded by Mr. Grant,
“That the Minutes, as amended, be confirmed.—Carried.”

Moved by Mr. Douglas, seconded by Mr. Clarke,

That the Chairman name a Committee of three to carry into effect the resolution passed yesterday respecting the uniformity of matriculation examinations of the various Colleges and learned Societies, and to report at the next annual meeting.—Carried.

The Chairman nominated the following Committee : Messrs. Anderson, Clarke and D. H. Hunter.

Eleven o'clock having arrived, and it being understood that Mr. J. H. Hunter was prepared to come before the Section in accordance with yesterday's resolution, it was moved by Mr. Oliver, and seconded by Mr. Turnbull,

That Mr. Hunter be now heard.—Carried.

The Secretary having stated that a representative of the Press had asked permission to be present, leave was granted to that effect, and also to have a copy of Dr. Wilson's letter.

Mr. Hunter then addressed the Section at some length, explaining his views on various matters affecting our High Schools.

Several questions were then asked by members present, and answered by Mr. Hunter.

Moved by Mr. Henderson, seconded by Mr. Wightman,

That the thanks of the Section be tendered Mr. Hunter for his explanations.—Carried.

The meeting then proceeded to ballot for four members of the High School Committee.

The Chairman named Messrs. Douglas and Seath scrutineers.

A ballot having been taken, Messrs. Mills, McMurchy, Crowle and Strang were duly elected.

Moved by Mr. Turnbull, seconded by Mr. Grant,

That Mr. Ross, Inspector of Lambton, be the fifth member of the High School Committee.—Carried.

The programme of studies was then very briefly discussed, but owing to the limited time at the disposal of the Section it was thought best not to take any action.

Moved by Mr. Turnbull, seconded by Mr. Ballard,

That the Section do now finally adjourn.

The motion having been carried, the meeting accordingly adjourned.

HUGH J. STRANG,

Secretary.

TREASURER'S REPORT

FOR THE YEAR 1873-4.

RECEIPTS.

Deposit in Building Society, \$56 14; Interest on same, \$3 35..	\$59 49
Cash in hand	4 41
Members' Fees.....	61 50
Copies of Annual Report for 1871 and 1872 sold.....	68 09
Copies of Annual Report for 1873 sold by Treasurer	4 20
Advertisements on Cover of Report for 1873	17 50
	<u>\$215 19</u>

EXPENDITURE.

Balance of Expenses of Delegate to Quebec	\$2 00
Printing Annual Report and By-laws, \$69; and Annual Circular, \$11 80	80 80
Advertising, \$2; Gas Account, \$4 88; Caretaker, \$4; Postage, &c., by Treasurer, 55 cents	11 43
Secretary's Account for Stationery, Postage, &c.....	11 75
Rent of Room in Mechanics' Institute	8 00
Printing Annual Circular for 1874	15 00
	<u>\$128 98</u>
Balance on Deposit, \$59 49; In Cash, \$26 72	86 21
	<u>\$215 19</u>

SAMUEL MACALISTER,

Treasurer.

PAPERS READ BEFORE

THE ONTARIO TEACHERS' ASSOCIATION.

 THE PRESIDENT'S ADDRESS.

GENTLEMEN,—I stand before you this evening as a truant, and almost as a culprit. When you did me the honour to elect me President of your Association, I was meditating, as I warned you at the time, a visit to England, but I did not expect to be absent more than six months. My stay in England was prolonged by the dissolution of the British Parliament, which came upon us unawares, and scattered over the country the friends whom I had expected to find in London; so that I had to wait till the elections were over, and my friends returned to town. Even without that excuse, however, a man might have been pardoned for lingering in England when I was there. In the spring and early summer the beauty of the garden-like landscape is at its height; the greenness, which is its special charm, is most intense; and of late years, since such a marvellous tide of wealth has poured into England, the magic touch of the millionaire has added the last finish to the trimness of the fields and crowned the slopes with the multiplied mansions of a luxury which still has enough in it of the old English taste to delight in the enjoyments of nature.

To the charms of the landscape are added in that ancient kingdom those of historic monument and association. And nowhere are the charms of historic monument and association stronger than in those scenes in which we of the Educational Profession feel a peculiar interest—in the marvellous galaxy of medieval colleges, interspersed with academic lawns and groves, which everywhere meets your eye as you look down from the dome of the Radcliffe Library in Oxford; in the almost equally glorious line of houses of learning which seems to muse along the green banks of the quiet Cam; in that ancient school, the eldest of English grammar schools and the first fruits of the English Renaissance, founded by the princely prelate, William of Wykeham, beneath the shadow of the immemorial fane which holds the ashes of Rufus and those of the Saxon kings; in that younger but still venerable counterpart of Wykeham's work, Eton, with its grey courts and its expanse of lawn overshadowed by secular elms, stretching along the side of the Thames; while, crowning the opposite height, rise in their majesty the historic towers of Windsor, with the memories of the Round Table, and with that romantic chapel in which the victors of Crecy and Poitiers sat among the Companions of the Garter.

It would be difficult to imagine two monuments more symbolical of the quiet advance of education with its beneficent agencies, amidst the

storms of politics and war, than Eton, founded by that unhappy but gentle and pious King who, unable to grasp the sceptre of his warlike sire, perished disrowned amidst the wars of the Roses, and Magdalen College, Oxford, the loveliest of all the homes of learning, which was founded at the same time by the Chancellor of Henry the Sixth, William of Waynflete. Stand in the quadrangle of Waynflete's College, and as your eye feeds upon its matchless beauty you will be brought into the fullest communion with the spirit which fed the lamp of learning and education amidst the darkness and the tempests of the centuries that are past.

When shall we in Canada have such monuments of ancient grandeur and beneficence—such treasures of noble memory as these? When shall we, in this bleak, though by its children well-beloved, land of promise, be able to point to an Oxford or a Cambridge, a Winchester or an Eton? We are as far, no doubt, from the possession of such shrines of history as our landscape, in which the giant pines, rising in their monumental grimness, remind us that but yesterday all was primeval forest, is from the trim and finished beauty with which the culture of centuries has invested the English fields. But if we have not the glories of the past, we have hopes for the future, rich if we are true to our country and to each other. We have not only hopes for the future, but we have immunities at the present hour. If preceding generations have not bequeathed to us storied monuments and ancestral fanes, neither have they bequeathed to us those legacies of evil, those masses of debt material and moral, those burdensome traditions, those consecrated obstructions to progress which sit heavy on humanity in the old world. If we have not the finished landscape and the abodes of wealth, with their costly gardens and patrician deer parks, neither have we the union workhouse, which in England grimly obtrudes its prison-like form on the fair scene. If we have not the palaces of London, neither have we the leagues of want, squalor and misery which lie close to the palace gate. We have a rough piece of land, not yet perfectly stumped or stoned, but unmortgaged, and darkened by the baleful shadow of no upas tree of the past.

I was made sensible of this fact, as soon as I set foot in England, by finding myself in the midst of a controversy, so bitter that it might almost have been called a petty civil war, about a question deeply interesting to our profession, which has now been for many years happily settled in this country, and here troubles us no more. It was the great question raised by the late Public Education Act. Public education was, in fact, struggling to emancipate itself from ecclesiastical control, while the High Church ecclesiastics and the party allied with them in politics were striving to prevent its emancipation. It can hardly be said that anything deserving the name of popular education existed in England previous to the great political and social movement which set in when, the French war being over, interest in domestic questions revived, and the most conspicuous result of which was the Parliamentary Reform Act of 1832. Education, no doubt, there had been, and education to a limited extent of the poor; and this from very early times. To the clergy, in the fruitful age of faith, was due the first commencement of that which afterwards, in the hour of mistrust, when growing doubt

threatened their authority and their endowments, they fiercely and fatally opposed—a remark which may be extended to the general relations of the medieval clergy to the progress of civilization. Christianity was a religion of light, and in the early Anglo-Saxon times, while the conversion of the nation was still going on, we find in the mission centres the centres also of learning and education. The Church, in fact, in those days was the School. Theodore of Tarsus, Archbishop of Canterbury in the seventh century, has left a name honourably connected with the improvement of education as well as with the extension of Christianity and the organization of the Church. The great missionary, Bishop Wilfred, also had constantly under his care a number of boys, the sons of men of rank, till they reached the age of fourteen, when he required them to decide whether they would become soldiers or priests. The Church of Ireland, too, sent not a few labourers into the harvest of English education, as well as of English conversion, in that bright dawn of Irish civilization which was destined so soon to be overcast and to be followed by so dark a day. King Alfred, the Christian hero, and the preserver of Christian civilization in England from the sword of Danish paganism, was also the great restorer of education and rebuilder of schools. Fable—alas! it is only fable—connects him with the foundation of the first school at Oxford. The Court itself in his time was invested with a splendour brighter than the vulgar pomp of kings by becoming the great place of education. In the age succeeding the Conquest, education could hardly hold a place at the Court of the fierce Norman sovereigns; but we find it, with much besides which needed such shelter in these wild days, beneath the tranquil roof of the Benedictine cloister. Anselm, perhaps the most truly Christian among all the equivocal forms of the medieval saints; Anselm, who by Christian firmness in the maintenance of principle, combined with Christian gentleness, charity and meekness, conquered Norman tyranny, impersonated in the Red King and his less savage but hardly less terrible successor; Anselm, before whose holiness the Conqueror himself had bent in reverence, and whose presence William desired at his bedside when the end of his life of battle and crime drew near; Anselm, the first thinker of his day, and the precursor of the school philosophy, was also the great educator of his time and the great reformer of education. As Abbot of the great Norman Abbey of Bee, before his elevation to the Archbishopric of Canterbury, he had been as assiduous in the good work of teaching and training the young in the school which formed a regular part of the monastic community, as in directing souls, regulating the monastic system, or solving high problems of theology. And he may be regarded as the father of that gentler mode of treating the pupil which we now acknowledge to be the better one, and which he strove by precept and example to introduce in place of the brutal severity which had prevailed in Anglo-Saxon times, and it seems was still in the ascendant. His faithful friend and biographer, Eadmer, a medieval Boswell in his reverent minuteness has left us an anecdote of this educational reformer of the eleventh century, the fragrance of which has not been lost by lapse of time. An Abbot, a very religious man, was one day deploring to Anselm the difficulty of making an impression on the boys in his monastery. “Do what we will,” he said, “they are incorrigible. We

beat them without ceasing, day and night, and they only grow worse." "You beat them without ceasing," said Anselm. "Pray, how do they turn out when they grow up?" "Dull and brutal," was the reply. "You are unfortunate," said Anselm, "if with all this trouble you only turn men into beasts." "What are we to do?" cried the Abbot; "in every possible way we try to force them to improve, and all is of no use." "*Force* them! Tell me, my Lord Abbot, if you were to plant a tree in your garden, and to tie it up so on all sides that its branches could not spread, what sort of a tree would it be when in course of time you gave it room to grow? Would it not be good for nothing—a mass of entanglement and crookedness? And whose fault would that be but yours, who had put such restraint upon the sapling? And this is just what you do with your boys. You plant them in the garden of the Church, that they may grow and bear fruit to God. But you so cramp them with fear, and threats, and blows, that freedom of growth they have none. And thus crushed in spirit, they gather in their minds evil thoughts, tangled as thorns: they cherish those evil thoughts, and doggedly repel all that might correct them. Hence they can see in you no love, kindness or tenderness towards them; they cannot believe that you mean good by them, but put down all you do to ill-will and ill-nature. Hatred and mistrust grow with their growth, and they go about with downcast eye, and cannot look you in the face. For Heaven's sake, why are you harsh with them? Are they not human beings of the same nature as you are? Would you like, in their place, to be treated as you treat them? You try by blows alone to mould them to good. Does a craftsman fashion a fair image out of gold or silver by blows alone? Does he not with his tools now gently press and strike it, now with wise art still more gently raise and shape it? So if you would mould your boys to good, you must not only bow them down by stripes, but with fatherly kindness raise them up and help them." "But," the Abbot insisted, "to form strong and serious character is our aim." "And a right aim," said Anselm; "but if you give an infant solid food you may choke it. For every soul its fitting food. The strong soul delights in strong meat, in patience and tribulation; not to wish for what is another's; to offer the other cheek; to pray for enemies; to love those that hate. The weak and tender in God's service need milk; gentleness from others, kindness, mercy, cheerful encouragement, charitable forbearance. If you will thus adapt yourselves both to your weak and to your strong ones, by God's grace you shall, as far as lies in you, win them all for God." The heart of my Lord Abbot, according to Badmer, was turned; he fell at the feet of the great teacher, and mended his educational ways. Anselm's language in the conference is, of course, tinged with asceticism; but, on the whole, this scene, enacted eight hundred years ago between two figures in the garb of the remote past, is wonderfully near to us at the present day. If you wish to realize it, and at the same time to make a pilgrimage to one of the early seats of learning and education, go, when you chance to be in England, to the old historic city of Gloucester, where you will find a Benedictine cloister, though not that in which Anselm taught, nearly in its pristine state, adjoining the cathedral, which was itself once the Abbey Church. That cloister was the scene of all those parts

of the monk's life which were not passed in the church or the chapter-house, and, among others, of his studies, his literary work, and the instruction of the novices and the children who formed the school attached to the monastery. It was roofed, but otherwise exposed to the weather, and the monk had to brave the hardships of a sedentary life all the year round in the open air. More than once a chronicler tells us that he is obliged to break off his work for the winter because his fingers are nipped by the frost. Some of our medievalists look back, or fancy that they look back, wistfully to those times. It is a pity they cannot put on the magic shoes of Hans Andersen's tale, and be for one day transported back to the middle ages. One day's experience would probably satisfy their desire.

High honour is due to the monasteries, and especially to those of the Benedictine Order, for the services thus rendered by them to education as well as to learning in the darkest hour. But their pupils, all told, must have been few in number; and of these, while a few were scions of the lay nobility, the bulk, and probably all those taken from the poorer classes, were destined for the ecclesiastical order. That order, indeed, was far more comprehensive than it is in modern times; it included not only the priest proper, but all the intellectual professions—the lawyer, the physician, the literary man, the architect, the artist, the mechanician—every one, in short, but the soldier, the trader, the handicraftsman, and the tiller of the soil. Still it was limited compared with the mass of the population, which remained in a state of total ignorance; among the consequences of which we may reckon the blind and sanguinary fury of labour movements in the middle ages, such as the insurrection of the villeins under Wat Tyler, which strongly contrasts with the generally peaceful and orderly, though sometimes erroneous, contests waged by the better educated mechanics of the present day. Even among the nobility and gentry elementary education was very scarce. The absence of printing indeed would, in any case, have rendered it almost impossible that education should be widely diffused.

With that great movement of the sixteenth century which, from the prominence of the religious element in it, we call the Reformation, but which might more aptly be termed the revival of humanity, came the spirit of national education. Of the first efforts in that direction the honour may be ascribed to enlightened Catholics, to William of Wykeham, and after him to the group of which Sir Thomas More was the noblest man in England, while Erasmus was their leading spirit in Europe; but these men, though, when the religious crisis arrived, they shrunk from schism, and clung to the ancient faith, belonged intellectually, and not in that respect alone, to the Reformation. A number of grammar schools, of which Christ's Hospital is the greatest and most famous, founded by the young Protestant King, Edward VI., and still bearing his name, are at once the first fruits of the newly-awakened spirit of national education in England, and the proofs of the connection of that spirit with the spirit of the Reformation. This connection it is impossible to doubt, and it may be admitted even by a Catholic without necessary disparagement to his religion; for a Church which can herself teach all truth needs not the aid of the human intellect, perhaps naturally mistrusts it, and therefore has comparatively little interest in

education; while a Church which appeals to reason and to private judgment must of necessity educate, and this irrespective of the abstract truth of the doctrines of either Church. Which are the educating nations? Scotland, New England, Germany, Holland, Switzerland, Denmark, Norway, Sweden, Canada. Which are the non-educating? Spain and her colonies, Portugal, Italy, Austria, Belgium—Belgium, in spite of the existence in her of a large manufacturing element, which generally carries with it activity of mind. In the case of Spain the facts are eloquent. By its last census not a fifth of the population can read. But even this amount of progress has all been made since the beginning of the century, prior to which time we are told to be able to read was in men very rare, in women immoral; and the growth of popular education has proceeded at exactly an even pace with the demolition of political despotism and of ecclesiastical intolerance. If, in parts of Catholic Germany and in Ireland, we find popular education, this is traceable in the case of Germany to the influence of Protestant neighbours, in the case of Ireland to the direct interposition of a Protestant power. It is true that the Jesuits were good educators; so good as to extort from Bacon the exclamation, *Tales cum sint, utinam nostri essent*: “They are so excellent that I would they were ours.” But Jesuit education was the offspring, as well as the antagonist, of the Reformation; its object was not to enlighten, but to influence and to re-convert, and with a view to that object its pupils were selected. No Jesuit was ever a hearty friend to popular education. We need not press the case too far. That vast extension of popular education in recent times, which is one of the most momentous facts in the history of the nineteenth century, is traceable, no doubt, to other causes besides religious emancipation. Even in Prussia public instruction was comparatively little cared for in the interval between the Reformation and the French Revolution. Frederick the Great, at the end of the Seven Years’ War, provided for his superannuated grenadiers by making them schoolmasters. It was when the army of Frederick the Great had been overthrown by Napoleon, in the hour of calamity and shame, that Prussia, feeling the need of something stronger than an army to redeem her from the depths into which she had fallen, first abolished serfdom and then instituted the great system of public instruction which has carried her from Jena to Sedan. But, in the main, the fact remains indisputable that public instruction, as a duty and as a policy, has been intimately connected with the prevalence of religion, which appeals to an open Bible and to reason as the interpreter of its pages.

In the land of John Knox the Reformation was completely victorious, and drew with it the general love of education which has made Scotchmen what they are the world over, as well as the political Liberalism to which, even at the present moment of Conservative reaction in England, Scotland remains true. But in England, as in France, the issue was doubtful. France, even after the defeat of the Huguenots, did not lose all trace of their spirit or sink ecclesiastically and mentally to the level of Spain; while in the English hierarchy, and in the monarchy and aristocracy which were allied with it, as the monarchies and aristocracies of France and Spain were with the hierarchy in those countries, there was preserved some of the doctrine and temper of the Church of the

middle ages. The spirit of education which touched with fire the lips of Milton, belonged in the main to Milton's party; with the Puritans it conquered; with them it fell; with them it went into illustrious exile, and founded in New England the first common schools. The State clergy of the Church of the Restoration were almost as indifferent to public instruction as the State clergy of Spain; the only proofs they gave of anxiety about the subject were Acts of Parliament passed under their influence to prevent Dissenters from educating their own children, the last and most infamous of which was the work of the infidel Bolingbroke, pandering to the passions of fanatical ecclesiastics. This apathy lasted through the eighteenth and the early part of the nineteenth century. George III. expressed a pious wish that every poor child in his dominions should learn to read the Bible—we may be sure he meant with a political commentary of a very orthodox kind—but no public measures were taken to give effect to the King's desire. About the only places of popular education were those Danes' schools which have furnished themes to every painter of English peasant life from Crabbe to Wilkie, and in which old women who knew nothing taught the children of the peasantry all they knew. After the great French war, however, the mind of the nation being turned again from that mortal conflict to its own affairs, the current of reform, long icebound, began to flow, and the cause of popular education as well as that of political improvement was taken up with accumulated energy and fervour. Wesley had done something by his school at Kingswood, and still more by showing his sense of the importance of the subject. Bell and Lancaster had done something by agitating educational questions, as well as by devising the monitorial system. But the motive power came from that revival of the spirit of progress in the nation, after the long period of reaction caused by antagonism to continental Republicanism, which was so strong, so tempestuous in its character, so powerful in its effects, as almost to deserve the name of the English Revolution. A revolution, in fact, it would have been had not the obstinacy of the aristocracy and the clergy quailed before the advent of civil war. Brougham thundering in the van at once of political and educational reform was the master spirit and typical man of the day. With stentorian voice and vehement gestures he enforced upon the national mind the necessity of public instruction; he once spoke in Parliament on the subject for seven hours. At his bidding, and that of the age of which he was the emboliment, the schoolmaster went abroad, Penny Cyclopædias were published, Mechanics' Institutes rose, inquiries into educational charities commenced, and everything betokened the advent of an educational revolution. At the same time the clergy of the State Church, seeing that education must come, and that it might fall into bad hands, met their danger in the best and most creditable way by exerting themselves in their parishes, and with great effect, for the improvement of the Church schools. Those were days of hope, as all days of revolution are; young men dreamed dreams and old men saw visions. It seemed that a Reformed Parliament and Public Instruction would make new heavens and a new earth. It is a beneficent illusion; for if we could see beforehand how limited the results of our improvements would be, we should hardly exert ourselves to make any improvements at all.

Singularly enough, or I would rather say naturally enough, the first scene on which this spirit of educational reform displayed itself in practical legislation was Ireland. Whether it be in education, or police, or the Church, or the land law, England is always ready for radical reform—in Ireland. Cromwell saw the value of Ireland as a field of experiment; he called it a clean paper on which he could write measures of improvement which in England vested interest and rooted prejudice could not suffer him to introduce; and perhaps the usefulness of the smaller island in that respect is not yet exhausted. In 1831, while the Parliamentary Reform Bill was still struggling through the House of Lords, and forty years before the first English Education Act, Ireland received a measure of national education based on the principle of combined literary and separate religious instruction, the funds being supplied out of the national revenues. The immediate author of this measure was the late Lord Derby, then in the heyday of his youthful Liberalism, and threatening to send the King to Hanover if he would not assent to the Reform Bill. Between Ulster Orangemen on the one hand and Paul Cullen on the other, national education in Ireland has had a hard life, and so have its administrators; but though much bruised and battered by the shillelahs of both parties, it has survived, and has no doubt largely contributed, with measures of political justice, and a kinder and more generous treatment of Irish questions generally, to produce the improvement in the condition of Ireland which may now be happily regarded as an unquestionable fact.

In England itself no measure could be carried. The religious difficulty, or a difficulty of a very mixed character, by courtesy styled religious, stood obstinately in the way. First the Whigs tried a measure on the secular principle, and failed; then the Conservatives tried one on the State principle, and failed also. Sir James Graham held out to the Dissenters what he called his olive branch, which the Dissenters took, and belaboured him over the head and shoulders with it till he dropped his Pill. In the meantime, however, a system of aiding schools with public money, and inspecting them through State inspectors under the auspices of the Privy Council, was introduced, nominally as a tentative policy; and under the astute and aspiring management of Sir J. Kay Shuttleworth it grew yearly to larger proportions, and more deeply committed Parliament and the nation. Parliament all the time behaved with what Englishmen think the perfection of practical wisdom; it voted, with eyes shut, the annual grant, and refused to discuss its principle or to entertain any question connected with it. At last the magnitude of the grant, and the obvious tendency of the tentative policy to become definitive, brought the question to a head, and in 1858 a Royal Commission of Inquiry into the subject of popular education was issued, under the chairmanship of the Duke of Newcastle. That Commission spent three years in its inquiry, investigating through its Assistant Commissioners the state of education, not only in England but in other countries, and among the rest in the United States and Canada, where the Assistant Commissioner was Mr. Fraser, now Bishop of Manchester. The Commission reported, and the materials for legislation were before Parliament; but Parliament still shrunk from facing the question, and the only immediate result was a revised

code of minutes issued by the Privy Council. For ten years more the subject remained in abeyance, and the ancient reign of ignorance was left unmolested among great masses of the population. At last came an event which overcame both intolerance and bigotry, and surely heralded the legislation of 1870. The Tory aristocracy, under the guidance of Mr. Disraeli, resorted to the desperate policy of appealing from the more intelligent and well-to-do portion of the working classes, which was mainly Liberal, to what is called in the polite obscurity of a learned language the *residuum*—in the vulgar tongue, the dregs of the people in the large towns. This policy was carried into effect by the Conservative Reform Bill of 1867. Then Mr. Lowe cried in fear and anguish, "We must educate our masters;" and a Liberal Government having come into power, with Mr. Forster, Arnold's son-in-law, as the Minister of Education, the Education Act of 1870 was passed.

That Act retained the denominational schools with which Government had entered into partnership under the Privy Council system, while it rendered a conscience clause imperative in all schools in which religious instruction was given, and did away with denominational inspection, treating all the schools as national, and making the province of inspectors purely geographical. At the same time it introduced the supplementary principle of local responsibility under the form of School Boards elected by the ratepayers, which are bound, where the school accommodation is found deficient, to supply the deficiency by erecting district schools of their own. The Central Government, besides the function of inspection, is invested with the power of compelling the locality to act where there is a proved deficiency of accommodation. In School Board schools no catechism of any religious sect is to be taught. Thus the system is a somewhat complicated mixture of the national, the local and the denominational—of the secular and the religious. An admirer of it complacently remarks that England is the country of compromise and amalgamation. But we have also heard of a Dutchman arrayed in a dozen pairs of breeches, who did not find that complication of integuments favourable to vigour and rapidity of action.

About this Education Act, however, a deadly controversy had arisen, and when I landed was raging through the whole nation. The first public occurrence which I witnessed was the opening of a School Board school at Liverpool by Mr. Forster, the framers of the Act, who took the opportunity of delivering an elaborate vindication of his own policy, which had been denounced by his friend and late colleague, Mr. Bright. He spoke ably and instructively, of course, but he failed to explain what I wanted specially to hear explained—how it came to pass that this great measure of educational pacification had set the whole nation by the ears. Hostile parties were facing each other all over the kingdom in grim array. School Board elections were being contested with an animosity at least equal to that shown in elections to Parliament. A storm of controversy was raging, and charges of immorality, fanaticism, and bigotry resounded on all sides. The Liberal party was torn with intestine divisions, and you could not mention Mr. Forster's name at a Liberal meeting in the north of England without calling forth a storm of hatred. When the general election came, the clergy of the

State Church raised with one voice the cry of "the Church in danger," which, blending with the equally vociferous cry of "the beer barrel in danger," produced the issue of campaign cards exhorting the voter to vote for the national beverage and the national religion. There had not been such an uproar since the Church mob burned dissenting meeting-houses, after the acquittal of Dr. Sacheverel. If you asked what the specific cause of war was, especially between Mr. Forster and the Liberals, who thirsted for his blood, you were told that it was the twenty-fifth clause. The twenty-fifth clause enables School Boards to pay the fees for children whose parents are too poor to pay—at denominational schools if the parents prefer them—and under it a sum of about \$25,000 had been expended in a whole year. Obviously this was merely the pretext—it was not the real occasion of the fray. It was at most the symbol of the momentous difference of principles which was convulsing the nation. The real question at issue was that of clerical ascendancy in education, with its political and social corollaries, and beneath the question of clerical ascendancy in education again lay the question of the State Church, the just solution of which, in this country, has brought with it educational peace.

I suppose that all who acknowledge, as I for one do, the paramount importance of religion to men and nations, would rejoice if we were so settled and so united in our religious convictions that religion could be effectively taught in our common schools. Perhaps it will be so hereafter—] perhaps the cloud of doubt and perplexity which has now for two centuries, since the days of Spinoza and Hobbes, been gathering over the religious firmament, will break up, and the sun of faith, hidden for awhile behind that cloud, will beam forth again and diffuse over the world, now chilled and darkened by its absence, a brighter, more perfect, and more abiding day. Such is not only my hope, but my firm conviction; though I know, and it has been part of my duty as a student to examine, the truly formidable objections which philosophy, historical criticism, and science have raised. But though certainty and unity of faith may come again, they have not come yet; and for the present, communities like ours, which feel education to be a necessity, have to respect religion without undertaking to teach it; they have to let the common school do its own work and the Church and Sunday school do theirs. The school is not irreligious because it does not teach the catechism, any more than any other organ of instruction, say any commercial or military instruction, is irreligious on the same ground. There is nothing opposed to religion in reading, writing, or arithmetic, any more than there is in book-keeping or drill. The cry of the State Church party in England was that the secularists would make the children clever devils. But knowledge does not in itself make a devil, neither does ignorance make an angel; at least it has not made angels of the people of Calabria or Mexico. I do not deny that in certain countries where the clergy have tried to crush education, education has unhappily assumed a somewhat hostile attitude towards the clergy and their teaching. An Italian once said to me, "I like to see the schools rising; every school shuts up a church." But this statement was peculiar to a native of a country where the Church has been the enemy of the school. Again, there may be special defects in an educational

system—it may be too ambitious, too showy, too superficial, and it may breed in its pupils faults of character corresponding to these bad features of the institution. No doubt such is the tendency of the school system in many parts, at least, of the United States, and perhaps we are not free from the danger here; but these defects we may hope to remove by wise measures of educational reform. So far from fighting against the Church, a good school in a country like ours fights with it, for it is directly and indirectly a potent organ of morality. The school and its master or mistress may not be formally concerned with religion, but in a country like ours they are not severed or estranged from the religious community around them.

The spirit of that community is present with them; they feel and transmit its influence; it pervades the character and tone of the teacher, the discipline and all the moral agencies of the school. Mr. Forster said, in his speech at Liverpool, that it would be very shocking if a teacher, in rebuking a child for telling a falsehood, could not appeal to the interest of the child's soul. Well, but I suppose a Christian teacher, like a Christian employer, can rebuke a lad for falsehood in a Christian way, without reciting the Athanasian Creed or the Westminster Confession. Thus, apart from any direct religious teaching of a neutral kind which you may be able to introduce, and which perhaps is not of much value, there is a religious as well as a moral element in the schools of a Christian country. Such, I suppose, has been the general view of the question taken by the statesmen and the people of this country; and the result is a system of public education, or, if you like to mark the absence of direct religious teaching by a difference of name, public instruction, in this young country, which, having been ably administered, works with almost unbroken harmony and smoothness, while in England, with all her experience and all her statesmanship, public instruction is an organized Pandemonium of political and sectarian contention. We are twitted with not having solved the problem as regards the Catholics. We have not solved the problem as regards the Catholics, because, as regards the Catholics, the problem here and everywhere is insoluble. They, under the authority of their spiritual guides, have taken up, conscientiously, as I do not dispute, a position of antagonism to modern civilization, and even to nationality and civil society, so far as they are embodiments of the modern spirit. There is nothing for it, therefore, in their case, but either to use force, of which nobody in this country dreams, however it may be under the iron rule of Bismarck, or to let them take their portion away in peace and use it, subject to State guarantees for proper secular instruction in the way their consciences enjoin. I think it will very likely be found that by adherence to this mild and comprehensive policy, though we have not extinguished, we have minimized Catholic resistance to public education. In this respect, also, if the foreign Jesuits will only refrain from troubling us with their alien intrigues, I believe we shall all do well.

But at this happy result we could never have arrived if we had not, in accordance with the growing opinion of the most enlightened portion of mankind, and with the decisive experience of history, adopted another great reform. Canada could never have had a harmonious system of public instruction—she would be now either without a system at all, or

like England, full of dissension and embroilment, if like England she had retained her State Church. The State Church is the radical cause of their difficulty in England. If you have a privileged clergy, that clergy will try to rule; it will try to rule in public education as well as in public religion. And it can hardly be blamed for so doing. The only good ground, the only ground not morally detestable, which the State can have for selecting a particular Church, clothing it with national authority and endowing it out of the national revenue, is that the doctrines of that Church are certain truth; and if the doctrines of a Church are certain truth, and recognized as such by the State, why should they not be taught to all the children of the nation? On the other hand, the unprivileged and oppressed Churches will be always in an attitude of jealous self-defence; they will suspect aggression everywhere; they will regard, and naturally regard, what the State does for public education, and what it gives to that object, as done and given in the interest of the privileged Church. The Public Education Act in England has in fact been a vast re-endowment of the Anglican Church. Harmony, therefore, will be impossible; every new regulation will be a fresh apple of discord; a twenty-fifth clause, or any other straw, may be the pretext, but the real source of contention, endless and incurable, will be ecclesiastical domination; the real struggle will be between religious privilege and religious justice. As a member of the Education Commission of 1858, I voted for the voluntary system rather than for State aid with a State Church, and with a State Church I am not sure that I would not vote for the voluntary system still.

It is easy, of course, to see the reason of the alliance between political and ecclesiastical privilege. It is easy to see why the party of political reaction goes to the polls with the clergy of the State Church. Perhaps it is not difficult even to discover a thread of connection between our national beverage and our national religion. But it is difficult to understand how any one who has no interest at heart but those of religion and of the community at large, can think it his duty to uphold a State Church. The words of the founder of Christianity, who said that His kingdom was not of this world, may be glossed over or distorted like other inconvenient texts of Scripture; but how can the evidence of history be ignored? Christianity, unestablished and free in apostolic times, did it not win the ancient world? Established and enslaved to the secular power in later times, has it not almost lost the modern world? Persecutions, religious wars, exterminations of the Albigenses, Spanish Inquisitions, massacres of St. Bartholomew, penal laws, and oppression of Nonconformists—whence did they come but from the alliance of the Church with the State? Of these atrocities and infamies, which have done more to discredit religion than the attacks of ten thousand Atheists, not Christianity, not even fanaticism was the cause, but fanaticism combined with self-interest, and armed by the Government with the sword which Christ had bidden Peter put up into the sheath. Depend upon it, mere excess of religious feeling, even when carried to the most irrational lengths, has not so much to answer for as is supposed; ambition and interest had more to do with the crimes of Innocent III. and Torquemada. They talk of a nation being godless because it has no State religion. If God is the God of mercy and

justice, what nation could be more godless than Spain under Philip II., or than England when it had Baxter and John Bunyan in prison? They talk of the support afforded by a State Church to the Government. What has been the support afforded by the State Church to the Government in England? The estrangement of the whole mass of Nonconformists—that is, of the most vigorous, energetic, and, when they have been let alone, the most patriotic portion of the people; the division of the nation, in the face of the Armada, by the persecution of the Puritans; then a great civil war; Ireland in a state of chronic rebellion; and now, when a democratic franchise has been conceded by the profligate strategy of a party, an almost impossibility of getting the nation to unite in framing that indispensable corrective of democracy, an efficient system of public education. As to unity of belief, which it is the professed object of establishments to produce, where can be less of it than in that knot of ecclesiastical cobras which I saw the other day wreathing their angry folds and raising their menacing heads against each other? There is far more of unity in our freedom. Our religion is far more truly national than that of an Established Church which includes only half the nation, and makes war upon the other half. Here no wall divides Christians—Protestant Christians at least—living or dead, from each other. Our clergy—the Protestant clergy at least—unite in all good works, in Christian philanthropy and alms-giving. In prayer for national objects, in national thanksgiving and penitence, whatever be our dogmatic differences, we can all kneel down together. I dare to affirm, too, that religion, though unencumbered by the fatal patronage of the State, affords to the Government here a more effective support than it does in England, with all its lordships and its mitres and its stalls. To support Government, religion must be strong; to be strong, it must be sincere; to be sincere, it must be free.

Therefore, I think England will have to follow the example of Canada. And why should she not? These colonies, though they are yet young and perhaps rough—though they have not as yet the refinements or the history, the hierarchies and the grandeurs, are they not the leading shoots of the race? Are not their tendencies to the less adventurous body of the race which has remained behind the natural index of its own future?

Education is a well-worn theme, and to lend any new interest to its generalities, especially before a professional audience, is beyond my skill. I thought I should weary you less by speaking of an episode of its history in the land most intimately connected with us, and most dear to us, which has fallen immediately under my observation, but not so immediately under yours. Europe for the last century has been full of convulsions, the terrible harbingers of a new order of things; it has been full of political and social conflicts—of revolutions that, like a whirlwind, have laid low temple and throne—of wide-raging and murderous wars. And revolution and war alike have too often left behind them nothing but moral and physical ruin, desolated fields, exhausted energies, shattered hopes, political despondency, and prostration and reaction such as we see in France a hundred years after that hour of promise and of transport when she undertook with exulting confidence not only her own regeneration, but the regeneration of the world. Yet, through

all these storms and amidst all this havoc, popular education, gradually and gently but surely spreading, like the dawn amidst the cloud-rack of a tempestuous sky, is effecting a peaceful revolution, which will be followed by no prostration or reaction, and the fruits of which will never pass away.

Yes, you have a great mission. Exaggerated things, no doubt, have been said about the office of a teacher as well as about every other office. The influence of the school has been unduly magnified in comparison with the influence of home. The importance of school education has been unduly magnified at the expense of that which we receive from society, from our calling, through all the various avenues of knowledge and natural improvement in our after-life. The importance of knowledge altogether has been magnified at the expense of character, the formation of which must be the main object of the trainers of youth. Still you have a great mission. I was impressed with that fact by another thing which I witnessed in England, and which it pained an English heart to see. I mean the polling of the *residuum*, which, as I have already said, was enfranchised for a party purpose by the Reform Bill of 1837. These miserable possessors of a misbestowed power flocked to the poll, drugged with beer, and inflamed with senseless fury, ignorant of everything—devoid not only of the rudiments of political knowledge and duty, but of the knowledge which is imparted in an infant school. Swarms of them were unable to make a cross opposite a candidate's name, and had to vote by the form appointed for illiterates. In the trial of a controverted election a witness was put on the stand who had never heard the names of the leaders of the two great parties, and only knew that in his own town one party was blue and the other yellow. In another trial the Judge said that the sum spent in bribery altogether had been very small, but that, nevertheless, there had been a great deal of corruption, for the voters were so ignorant of what they were doing, and of their duty as citizens, that they could be bought for a pot of beer. Yet these men are arbiters of the destiny, not of England only, but of the Colonies and India. And it was Conservatism, self-styled, that had invested them with power, and was now appealing to their votes. We need Conservatism here to temper the rawness and wildness of Colonial freedom; but let us hope that it will be a Conservatism of a different kind—a Conservatism of the school-house and not of the pot-house—a Conservatism of intelligence, of morality, of honour, not of party strategy, which does not scruple to snatch a party victory by committing moral treason against the country. In this country we must frankly do homage to popular right. By the hands, by the hard toil and endurance of the people, this land has been reclaimed from the wilderness. To the people it belongs. We cannot allow ourselves basely to think of conspiring against them, or trying to rob them of their privilege by strokes of party tactics. On the other hand, we owe it to them not to be their flatterers and their sycophants; to recognize their political faults and their political liabilities; in view of those faults and those liabilities, to fortify our institutions in a sense honestly and nationally Conservative, and to endeavour by all the means morally in our power to secure the ascendancy of intelligence and principle over passion, to save civil duty from faction and corrup-

tion, to bar the way to power against the demagogue, and open it to the man of honour. In this work, by which the foundations of a great community are to be laid, the school and the teacher, if they do their duty and preserve the moral confidence of the country, will have not the smallest or the humblest share. Here before me is a great Conservative party, one without party banners, without party cries, without party wire-pullers, party slander, party trickery, party corruption, but which will continue to live and work when the political parties, with all that belongs to them, have been gathered into an unhonoured tomb.

And now to the business of our Convention. May it be prosperously transacted, and conduce, in its results, to the interest of our high public trust and the credit of our common profession! I am sure that we shall act together in perfect harmony, notwithstanding any pending question about which there may be a difference of opinion among us. We all give each other credit for acting on conscientious conviction, however widely divergent our convictions in every case may be. I will endeavour to do my part by attention and fairness in the chair; you, I have no doubt, will abundantly do yours.

WHERE DO WE STAND?

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The nucleus around which cluster the few observations here offered is a question that addresses itself, not to teachers and friends of education only, but to all sorts and conditions of men. The prudent merchant, the thrifty artizan or farmer, the successful capitalist, finds it necessary to take stock from time to time—to balance his books—in order to ascertain definitely whether his business is prosperous or the reverse.

So it behoves us who pursue a much higher and nobler calling—who have to do with interests, not of a sordid and perishable, but of an enduring character—to examine closely our accounts, to see on which side, not so much the cash as the intellectual and moral balance lies. How shall we best accomplish this, and how present the results of our inquiries so that they may not be falsified by events? Ordinarily this is done by a comparison of the past with the present; by taking a leaf out of the book of experience. But where shall the pregnant inquiry begin, or how confine it within reasonable limits? To answer fully, and with an approach to accuracy, the question propounded at the head of this paper, would involve a task as difficult of performance as that which the father of Inductive Philosophy proposed to himself when he undertook the great work that has rendered his name immortal. Such a survey would be out of place here, even if the writer possessed the ability and information necessary to complete it. The view, then, must perforce be limited, and yet sufficiently extensive to enable us to determine by comparison, as nearly as may be, our relative position in the world of intelligence. When we wish to examine a landscape, we usually make

choice for that purpose of the nearest available eminence ; so here, if we can fix upon some central point, some great epochal fact, a rock towering in the mid-ocean of Time, whence,

“Like stout Cortez, when with eagle eyes
He stared at the Pacific—and all his men
Looked at each other with a wild surmise—
Silent, upon a peak in Darien,”

we may scan the horizon without obstruction, we shall have found the desired position. Such, it will be generally admitted, is the invention of the art of printing in 1440—an invention which must have speedily revolutionized the functions and office of the teacher.

Before that event, oral instruction was the principal means employed for the communication and diffusion of knowledge. It is true manuscripts existed, but these were confined, for the most part, to the cloisters and the scanty libraries of the noble and the affluent ; they were, besides, too expensive for the masses, who were, in fact, too illiterate to read, even if they had the means to obtain them. Under these circumstances, as we may readily suppose, intelligence was restricted to the few ; the field of knowledge was necessarily of limited extent, but the workers there enjoyed exceptional privileges—were regarded with a reverence and clothed with an authority that set them far above the ignoble crowd. For in this profession we must rank many of the great jurists, philosophers, historians, poets and orators of Greece and Rome, as well as of western Europe, up to the revival of learning, from “Crotona’s Sage” down to Peter Abelard and the author of the “Book of Sentences.” That many of them sold their knowledge dearly, and amassed large fortunes thereby, we are credibly informed ; that others gave it gratuitously, from a sincere love of learning and an ardent desire to do good, is equally well authenticated. Notable among the latter was Socrates, the best and wisest of heathen philosophers, but who, nevertheless, incurred the hostility of envious rivals that compassed his destruction. Socrates,

“Whose crime was to be kind,
To render with his precepts less
The sum of human wretchedness,
And strengthen man with his own mind.”

When, however, owing to the invention of the art before mentioned, and the consequent greater diffusion of knowledge, the masses of the people began to grope their way towards the light, and the influence of books penetrated the hamlet as well as the hall, something of that awe and reverence with which the members of our ancient and honourable profession had been previously regarded gradually passed away. What becomes common, soon loses value in vulgar estimation. To ignorant ease and contentment succeeded agitation and desire for change ; to political servitude, in time, comparative political independence. In the long interval since, opinions have changed, men have changed, the world as a whole has been transformed ; everywhere, now, there is unrest. The labouring many are fast encroaching on the privileged few. The brilliant phrasemonger who now shapes Imperial policy, professes to discern, by help, it may be, of the “clairvoyant eye of genius,” the signs of impending revolution. One of the greatest statesmen of the last century, his imagination almost maddened by the atrocities of the French Revolution, denounced his own times with a splendid eloquence familiar

to all—"The age of chivalry," he writes, "is gone ; that of sophisters, economists and calculators has succeeded ; and the glory of the world is extinguished for ever. Never, never more shall we behold that generous loyalty to rank and sex, that proud submission, that dignified obedience, that subordination of the heart, which kept alive, even in servitude itself, the spirit of an exalted freedom. The unbought grace of life, the cheap defence of nations, the nurse of manly sentiment and heroic enterprise, is gone ! It is gone—that sensibility of principle, that chastity of honour, which felt a stain like a wound, which inspired courage whilst it mitigated ferocity, which ennobled whatever it touched, and under which vice itself lost half its evil, by losing all its grossness." Such is the picture drawn by one of the profoundest political thinkers of the state of Europe at the close of the eighteenth century ; and such is the picture, many thoughtful men conceive, that truthfully represents the state of the present age as we approach the last quarter of the nineteenth. To what is this untoward condition of things due ? it may be asked. Is it to the fondness for money, the *auri sacra fames* of the Roman poet, the prevalence of artificial manners and modes of life so characteristic of our times, and which are especially common among our immediate neighbours ? But there we find no lack of schools and schooling. Can it be, after all, that the diffusion of knowledge has proved inefficacious as the means of individual and national regeneration ? Or did the bard of Twickenham solve the problem for us when he wrote—

"A little learning is a dangerous thing ;
Drink deep, or taste not the Pierian spring ?"

Or Lord Bacon, who says in one of his Essays, "Learning taketh away the wildness, barbarism and fierceness of men's minds ; though a little of it doth rather work a contrary effect ?" Some one present is, perhaps, ready with the answer. Happily, the evils here hinted at rather than described have not yet afflicted our own favoured country, and long may they be averted. On the contrary, her progress has been steadily onward and upward. We have the authority of Earl Dufferin, the present accomplished Governor General, for stating that Canadians are apparently unconscious of the great natural advantages of this new Dominion. We know that our resources are practically inexhaustible. We enjoy the amplest freedom compatible with stable constitutional government ; we have an educational system which, in whatever light we view it, is unexcelled by any other in the world. From the primary school, through all the grades, up to the university, our scholastic institutions are virtually free—free public schools, generally free high schools, a free university. In the halls of learning the rich and the poor stand upon a perfect equality ; honours, prizes and scholarships are open to all. These inestimable privileges, however, have not always been ours. Thirty-five years ago there was not a university in Ontario where a young man might, after due study and examinations, obtain a degree in any of the faculties of Divinity, Law, Medicine, or Arts ; now there are seven. Upper Canada College was then in its infancy, while Cobourg Academy was but the chrysalis of Victoria University ; now there are nine institutions of this kind (or will be ere the year closes), and five of them for the higher education of young ladies. Then the grammar schools were confined to a few of the older towns, as King-

ston, Cornwall, Brockville, Niagara, St. Catharines, &c. ; now our high schools number about a hundred, seven of which, under the operation of the Act of 1871, have been converted into collegiate institutes, or local colleges, employing four or five masters each. Then our public schools were in number little over 2,000 ; now they are nearly 5,000. The school population of Ontario at that time was 180,000, about one-half of whom attended no school whatever ; now it is nearly 500,000, of whom only one-seventh is reported as attending no school. The sum available then for public school purposes was about \$275,000, of which, approximately, \$185,000 was raised by local taxation ; the whole sum available now for the support of the public schools is over \$2,500,000, of which nearly \$1,800,000 was raised by local means, showing an increase of nearly 900 per cent. over 1840. Such are the main facts illustrative of the progress of our public school system during the last thirty-five years. The limits of this paper forbid that we should attempt anything like an historic sketch of our high schools, or the provincial university ; the latter has been subjected more than once to the fiery ordeal of opposition, but has come forth from the furnace unharmed. Its enemies assailed it, in the first place, on the ground that it was not, *de facto*, a national institution, but was controlled almost exclusively by a dominant Church and a privileged class. The late venerable Bishop of Toronto was popularly supposed to possess and dispense, at his own will and pleasure, all or nearly all the patronage of what was then known as King's College, as well as of its principal source of supply, Upper Canada College. The opposition was sufficiently powerful to induce Parliament to secularize the institution, as it did the clergy reserves some time afterwards. But this was not enough to satisfy its disinterested and patriotic assailants ; the authorities and friends of rival schools demanded still further reform ; they urged that the Chairs of Law and Medicine should be abolished, under the specious plea that it was contrary to sound maxims of public policy to divert any portion of the endowment to the education of merely professional men. This demand was likewise rather hastily acceded to, and the Department of Arts alone preserved. Then commenced the migratory stage of the college. The Arts Department shifted from the old building in the Park, afterwards used as a branch lunatic asylum, to Front Street (opposite Upper Canada College), and then back again to the Park, where it found temporary accommodation in the brick edifice occupied originally by the old Medical Faculty, and for several years past by the Toronto School of Medicine. During this interval there was comparative tranquillity. The enemies of the university, hungry for the spoils, and hopeful of sharing them though they were, kept their weapons concealed. But when the Senate wisely resolved to erect a permanent building commensurate with the wants of the country, and creditable to the intelligence of its people—an edifice that now constitutes one of the principal ornaments of this fair city of Toronto, and will long endure as a national monument to which Canadian youth may point with pride—the conflict raged anew, and with augmented fury. The denominational crusade was pressed forward more vigorously than ever before. The aid of the press, the platform, aye, even of the pulpit, it is said, was called into requisition ; the lobbies of Parliament were invaded ; clamours rose high for shares in the endowment ;

nice logical distinctions were drawn between the terms "denominational" and "sectarian," proving conclusively that "tweedledum" was not "tweedledee." Those who looked on with indifference were vehemently urged to join in the "holy war," so as to be participators in the booty. The net result was the appointment of a Commission, that met, investigated and reported, and so the matter ended. The storm passed over, and left the University of Toronto with its scholarships reduced in number, but otherwise intact. The good sense of the people and the wisdom of Parliament were proof equally against the blandishments and the threats of the foes of our national institutions. But turn we now again to our public schools. Those who are familiar with our educational history during the period already referred to, will either remember themselves, or have learned from others, the fierce opposition which some of what are now regarded as the essential features of our School Law encountered. But the schools and school system of the Province have steadily progressed and prospered nevertheless, and there are few Canadians now who do not refer with pride and satisfaction to the greatly improved condition of our high and public schools. Thirty-five years since, and no properly organized school system existed in the country; everything was in a state of chaos; the choice of school books was left to the caprice of the teacher or the inclination of the pupil; and the consequence was, that in the same school the text books on the different subjects were almost as various as the number of teachers that had been employed there. But perhaps the worst feature of these books was, that many of them were imported from the neighbouring States, ignored the existence of Canada nearly altogether, and contained, in some instances, strictures anything but complimentary to the Sovereign, Government, institutions and people of Great Britain—thus tampering with our allegiance, and sapping the very foundations of Canadian loyalty. All this, as you know, is now changed, and changed very much for the better. At that time there was no effective or thorough supervision of the schools, no authoritative classification of teachers, no facilities for training them for the proper performance of their duties, no adequate system of examination. Too often when a man was fit for nothing else he turned his attention to teaching, and, furnished with a letter of recommendation from some charitably disposed clergyman, he used to set out in search of a school. The desired vacancy having been found, and the qualifications of the applicant tested by the trustees, the next step was to fix upon the rate per pupil, and canvass the section for subscribers. If a sufficient sum was thus realized to satisfy the applicant, he entered upon his duties, and sociably "boarded round" with his pupils, upon whose good will, too often, the amount of his income depended. The salaries, as we may imagine, under such circumstances, were not only small, but uncertain. The fact is, the teacher was a species of itinerant pauper, a social Pariah, without recognized status in society. And yet there were among them men of rare attainments, whose zeal and efficiency might put to the blush some among their professional brethren at the present day. In 1846 the Normal and Model Schools were established in Toronto, after the manner of those in Dublin. The late Thomas Jaffray Robertson, Esq., M.A., Head Inspector of the Irish National Schools, was appointed the first Head Master of the Normal School; and Henry

Yule Hind, Esq., M.A., F.G.S., Mathematical Master and Lecturer in Chemistry and Natural Philosophy. These gentlemen were both highly accomplished, and admirably fitted for their duties. At the head of the Model Schools were Archibald Macallan, Esq., M.A., of Hamilton, and Mrs. Clark, now in California. With the establishment of these schools a new era for public school teachers began. They introduced a more intellectual system of elementary instruction than had prevailed before. Routine gave place to reason; theory and practice were, for the first time, for the benefit of teachers and pupils, properly combined, taught and illustrated. During the last twenty-two or twenty-three years more than 6,000 candidates have received their training in these Normal and Model schools. Mr. M. C. Cameron's School Act of 1871, by rendering the examinations uniform and simultaneous over the whole country, has deprived normal school students of that monopoly of public favour which they have hitherto enjoyed, and placed public school teachers everywhere upon an equality of advantages. The principal changes introduced by this Act have been thus summarized:—

- I. The establishment of a national system of free schools.
- II. Declaring the necessity for, as well as the right by law of, every child to attend school, thus recognizing the principle of "compulsory education."
- III. The fixing of a higher standard of qualification for teachers.
- IV. Giving the profession of teaching a fixed legal status, and providing for the retirement and support by it of its worn-out members.
- V. Prescribing a more systematical and comprehensive, yet practical, course of study for each class of pupils in our schools,—including the introduction of the new subjects of Agriculture, Commercial Instruction, Mechanics, Drawing, Vocal Music and Natural History into the course of study for the schools.
- VI. Requiring that adequate school accommodation be provided by trustees for all the children of school age in their localities.
- VII. Giving facilities for the establishment of Township Boards of Education.
- VIII. Authorizing the establishment of industrial schools.
- IX. Discriminating, by a clearly defined line in the course of study, between the public and high schools; and prescribing a programme of studies for high schools.
- X. Providing for the establishment of Collegiate Institutes or local colleges.
- XI. Declaring the duty of Municipalities to maintain high schools equally with public schools as part of the system.
- XII. New principle of "payments by results" to high schools.
- XIII. Providing for a more thorough and systematic inspection of public and high schools—thus recognizing the necessity for a more

complete supervision of the entire system, and a harmony in its several parts.

XIV. Miscellaneous Provisions : Pecuniary and personal responsibility of trustees—Powers of arbitrators—Appeals—Vacations, &c.

These, it will be generally conceded, are very desirable reforms, and they have been supplemented and secured by the Hon. Attorney General Mowat's several Acts of last session respecting the high and public schools and the constitution of the Council of Public Instruction. The high schools, which had long maintained a precarious existence, are now placed beyond the reach of those who are opposed to all higher education. Teachers of all grades have now a personal interest in the Council ; and the provision made in the Act, for the publication of its proceedings, will deprive it of that Star Chamber character with which it has been, for many years, popularly invested. It is scarcely necessary to state that the great aim of school legislation in Upper Canada, since the Rev. Dr. Ryerson was installed as Chief Superintendent of Education, has been to elevate the character and improve the condition of the teachers as well as of the schools. Indeed the one follows as the legitimate and inseparable corollary of the other. Salaries now, although not what they ought to be, are vastly better and more certain than they were thirty years ago, after making due allowance for the difference in the cost of living. The status of the teacher has been much improved, and the quality of the instruction ought to be, if it is not, correspondingly good. This is, unquestionably, an age of advancement—of surprising intellectual activity. "The schoolmaster is abroad," notwithstanding the alarming prevalence of "Communism," "Freeloveism," and the kindred abominations of the day. Science, like the fabled Briareus, holds out to us her hundred hands. Not to proceed now, is to go back. Culture is being everywhere pushed forward with unwonted energy and zeal. In Europe "the desire felt and the efforts put forth for the diffusion of public education, in all its comprehensiveness and fulness, have been remarkable." In Great Britain, France, Germany, Austria, Italy, Denmark and Switzerland, important reforms have been recently introduced in their respective scholastic systems. It will not do for us, then, to sit with folded hands, and imagine that our work is done, and that there is nothing more to be known or worth knowing. The world of thought is all before us. We cannot afford, we have no right to fall back on the past. Our history has yet to be made ; our intellectual triumphs have yet to be won. We cannot point the inquiring stranger, a Montalembert or a Jaine, to an Oxford or a Cambridge, a Trinity or an Edinburgh, seats of learning venerable by reason of their age, and illustrious by virtue of a long line of celebrated scholars, although we may convince him that we have accomplished much in a brief period, and that we are not wholly unworthy of our kindred across the sea. With our neighbours beyond the southern border we need fear no comparison. This Dominion of ours is undergoing a process of material development unexampled for its rapidity, variety and extent. With this development it should be our care to see that the moral and intellectual progress of the country keeps pace, and that no bard of the future shall ever be able justly to write of any considerable portion of our population—rural or urban—

"Knowledge to them her ample page,
 Rich with the spoils of Time, did ne'er unrol;
 Chill Penury repressed their noble rage,
 And froze the genial currents of the soul."

But while we are thus solicitous about our country's progress, we should modestly acknowledge our obligations to the past, and cheerfully admit that there "were great men before Agamemnon"; confess frankly that the present is an imitative rather than an original age, and that much of the splendour of modern scientific discovery is due to the reflected light of bygone days. Finally, fellow-teachers, let us unitedly resolve to improve, in every legitimate way, our advantages; to labour diligently in the diffusion of sound learning; to inculcate constantly the great principles of truth, honour and honesty, of reverence for religion and loyalty to the Sovereign; so that, reviewing the whole educational system, which has grown gradually into such fair and goodly proportions in this free and happy Province of ours, we may sincerely and devoutly pray, in the dying words of Scarpi—*Esto perpetua*.

CO-EDUCATION.

BY J. M. BUCHAN, ESQ., M.A., INSPECTOR HIGH SCHOOLS.

"Naturam expellas furca, tamen usque recurret."

Side by side with the demand for the higher education of women, there has grown up on this continent a feeling in favour of co-education. For several years past there have been occasional discussions of the subject, and last summer there was a pitched battle between the opposing forces in the neighbouring republic. The co-educationists having carried the public schools, the grammar schools, the high schools, and a large number of the colleges and universities, made an attempt to enlist public opinion on their side against the ancient New England foundations, which still refuse to open their portals to women. The contest perhaps raged most fiercely around the doors of Harvard University, and both the attack and the defence were full of spirit. The debates on the subject at the various educational conventions have given origin to numerous magazine articles and books, and recently the publication of a series of essays on "Sex in Education," by Dr. Clark, a Boston physician of high standing, has provoked a host of rejoinders in the United States, and rekindled the flames of controversy in England, where his views have found an expounder in Prof. Maudsley. The discussion of the subject was, it was announced, to occupy the attention of the convention of the teachers of the United States which met last week at Detroit, but I have not yet seen any account of their proceedings. It is a remarkable proof of our isolation from the great world of thought—an isolation which, I am glad to believe, is growing less every year—that up to the present time the storm of this debate has not, at least as far as I know, raised a single ripple on our placid shores.

Yet great differences of opinion exist among us. There is one class, consisting for the most part of well-to-do men, who, in spite of their prosperity, remain fixed in the faith that the world is retrograding, and regard mixed schools as hot-beds of immorality and all kinds of vice. There is another class, staunch believers in the approach of the social millennium, who regard womankind as the salt of the earth, and become perfectly gushing when they describe the benefits arising from the admixture of the sexes in school. Between the two extremes may be found every form and variety of opinion. We have all the materials out of which to form two parties, and two parties are likely to be formed; for the subject possesses more than a passing interest for us on account of its bearings on the one hand on women's rights, and on the other on the arrangements of colleges and schools, and though we may ignore it for a time, it will finally be forced on our attention by the march of events. The question in its practical form has already cropped up in several places in Ontario, and it is probable that, as additional school accommodation is made necessary by the increase of the population of the cities and towns, it will crop up in still more. From the force of circumstances it has hitherto been a question in Canada between co-education and no education; but with the increasing wealth and density of the population, new possibilities are coming into existence, and as educationists will have a great deal to do in moulding the opinions of and determining the action to be taken in particular localities, I consider that I am warranted in directing your attention to this subject. It is in some respects a most important question. There can, I think, be little doubt that the future relations of the sexes depend largely on the way in which it is settled.

The present crusade in favour of co-education derives its strength from two independent causes. In the first place, the very fact that the larger part of the United States and Canada is sparsely peopled, has made co-education a necessity, and as almost all who have had experience in conducting mixed schools and colleges have found the popular and vulgar objections to it to be groundless, many have rushed to the opposite extreme, and discovered beauties and advantages in the system which I am persuaded exist rather in enthusiastic minds than in any order of educational arrangements. In the second place, the present age has witnessed the development of the Woman's Rights theory—a theory which, in many of the forms in which it has been propounded, seems to aim not only at liberating women from alleged oppressions, but also at turning them into men. To give the same education in the same classes to both boys and girls is obviously one step in the direction of abolishing sexual distinctions, and hence co-education is demanded by female reformers.

The efforts of these reformers to secure for the women of the future the advantages of a thorough education are undoubtedly in the highest degree commendable; but they appear to me to commit a grave error when they set up co-education, which is certainly necessary, and therefore, as a temporary expedient, justifiable in many cases, as the goal at which they aim, and towards which the energies of all who desire the improvement of society should be directed. No one can have a stronger sympathy with those who desire the improvement and elevation of the

female sex than I have, but it is my profound conviction that the path of progress for women does not lie through co-education. As a necessity forced upon us by circumstances it must be tolerated ; as an ideal, I regard it as wholly mischievous.

From my point of view, the question whether women have the same mental powers as men, though interesting, is comparatively unimportant. The real question is not what can women learn, but what ought they to learn, and how ought they to be instructed. The peasant in some parts of Germany yokes his ox and his wife to the same plough, and thereby gains experimental proof that they can plough well together ; but it does not therefore follow that they ought to plough together, or that the woman ought to plough at all. The kingdom of Dahomey has become formidable to its neighbours on account of the valour and discipline of its female soldiers. We have proof in this instance that women can contend successfully in arms with men. Does it therefore follow that they ought to shoulder muskets against men, against their own sex, or at all? But as the discussion of the mental powers of women and of the arguments generally urged in favour of co-education may enable me to explain my position, I shall devote a portion of my paper to these branches of the subject.

The advocates of mixed education usually support their case by the following arguments :

(i.) Boys and girls are brought up together in the same family, and men and women mingle in society : co-education is therefore natural.

(ii.) Young people, if brought into daily contact with the opposite sex, are more likely to be free from illusions with regard to it than if the sexes are educated separately.

(iii.) The presence of the other sex in a class exercises a restraining influence as regards behaviour, and a stimulating influence as regards work.

(iv.) The sexes are so similar in their mental powers that the same methods of training and the same subjects of study will benefit both.

I shall examine these arguments separately. The first, namely, that because boys and girls are brought up together in the same family, and men and women mingle in society, co-education is therefore natural, embodies a fallacy. It means, if it means anything, that because brother Tom splits firewood while sister Jane washes the dishes, and because after they grow up, they go to parties together, therefore they ought to be taught quadratic equations together. The fact of the matter is that boys and girls receive a different training at home, and men and women do different work in the world, and that if any inference is to be drawn, it is one unfavourable to co-education. Boys and girls, men and women, associate for pleasure, but not to any large extent for either training or work. The co-educationist sometimes produces what is substantially the same argument in another form equally fallacious. He says that as the sexes eat the same physical food at the same table, and are nourished by it, they ought to partake of the same mental food together. It is in the first place doubtful whether the food of the sexes is the same ; at any rate, the quantities of tea and spirits consumed by men and women are decidedly different ; and in the second place it is a question, not of mental food, but of mental training. The analogy, like most analogies, is misleading.

The second argument is, that young people, if brought into daily contact with the opposite sex, are more likely to be free from illusions with regard to it than if the sexes are educated separately. My observations and experience go to show that the argument is sound where applied to the case of schools in communities in which there are no marked social distinctions. Where there are social distinctions, as in cities and large towns, and where, in consequence, the teacher is compelled to enforce regulations forbidding communication between the sexes, illusions are fostered which would never have an existence under a system of separate education. To place a dish of tempting fruit, labelled "TASTE NOT," on the table at every meal, is, to say the least of it, not the best way to prevent the mouth from watering for that particular dish. It requires little knowledge of human nature to complete the parallel. I shall quote in this connection the weighty words of Mary Putnam Jacobi, an American physician, and herself a striking example of what mental training can do for woman :

"A more important moral reason for separate education consists in the desirability of prolonging as late as possible the first unconsciousness of sex. At this age the stimulus derived from co-education, acting upon imperfect organizations, is liable to be other than intellectual, * * * * and therefore to increase the very danger most to be averted from this period of life—the excessive development of the emotional functions and organs of the nervous system."

I am inclined to think that Dr. Jacobi has in these words given utterance to a home truth. American children are abnormally precocious. At an age when it would be better if boys devoted their spare energies to cricket and girls to croquet, they suddenly become young gentlemen and young ladies, and pay much attention to dressing and flirting, and I am persuaded that this early development lessens both physical and mental energy. It is not, of course, fair to charge this precocity entirely to our mixed schools, but they have their share in inducing it, because the very regulations which it is necessary to enforce continually call the attention of the young to the difference of sex.

The third argument is, that the presence of the other sex in a class exercises a restraining influence as regards behaviour, and a stimulating influence as regards work. This argument is, to a certain extent, sound. Co-education undoubtedly does impose a certain restraint on the behaviour of young people, and it stimulates girls to work in no slight degree. Yet, paradoxical as it may appear, I am convinced that it is injurious to the manners of the girls. It makes them rude and abrupt. It turns them into women too soon. To stimulate young women to compete with young men is unfair and injurious to the former in no slight degree. A young woman spends thrice as much time daily in dressing as a young man. She spends far less time in the open air. She usually spends considerable time and labour in contriving and making various articles of attire. When she is not so engaged she is probably practising music. Her whole mode of life tends rather to relax than to brace the nerves. If her male competitors do any work besides studying, it is usually of a character to freshen and invigorate them for study. What the consequences must be of inciting the physically weaker and handicapped sex to compete with the stronger and unencumbered it does not require a physician to tell.

The fourth argument is, that the sexes are so similar in their mental powers that the same methods of training and the same subjects of study will benefit both. On this I remark first, that even if it were true that the mental powers of the sexes are identical, that would prove only the possibility, not the desirability of co-education. I deny that they are identical. I admit that they are in many respects similar. But I maintain that there are differences, and accordingly I argue against co-education on the ground that the mental differences are the outcome of the radical sexual difference, which it is not desirable in the higher interests of society to attempt to obliterate. The interests of the race will be best served by the development and improvement of men and women in parallel but different lines.

What are the mental differences between the sexes? Up to a certain point, we, as teachers, all know that their mental powers are exceedingly similar. The most striking difference is partly moral and partly mental. Women lack the power of the initiative in both thought and action. The female sovereigns that have reigned in Europe have not been deficient in energy. Can any one point to a single great reform in law, administration, religion or commerce originated by any of them? How many women of any class have manifested originality, I shall not say in those branches of thought the education for which has been hitherto almost entirely confined to men, but in the domain of art? There have been a few clever novel writers and one or two good poets, and that is all. Though women have for centuries enjoyed superior advantages in the cultivation of music, the great musical composers are all men. In painting the case is almost similar. How many of the thousand and one labour-saving contrivances in use in the kitchen and laundry have been the invention of women? How many patents have they taken out for fuel-saving or light-improving apparatus? Yet the internal arrangements of houses are precisely the sphere in which they have been most stimulated by circumstances to show whatever inventive ability they possess. Did any one ever hear of a woman inventing anything at all? These illustrations so amply prove the charge, that there is nothing left for the believer in the mental identity of the sexes to say, except to attribute the lack of the power of the initiative and the correlated lack of originality to the subjection in which women have been kept for ages by the tyrannical sex, and not to the natural constitution of the female mind. This was the argument advanced by John Stuart Mill in his "Subjection of Women." I shall not weary you with a laboured refutation of his views; but shall content myself with simply remarking that the fact that there is not a single country in the world where it is the custom for the woman to take the initiative in proposing marriage, overthrows his entire argument.

Another, but a related defect of the female mind, is its incapacity for abstract thought. I have never heard of a female metaphysician, and I never expect to hear of one. Instances of women possessing real mathematical ability are exceedingly rare. An eminent Canadian instructor, who has prepared many successful candidates for mathematical honours in the University of Toronto, and who has had large opportunities for observing, tells me that he has yet to meet a woman with real mathematical ability. The records of the examinations held by the Central

Committee prove the mathematical superiority of men. I am fully aware that in the mixed colleges of the United States the female students do as well in mathematics as the male students, but I infer from the remarks of English travellers that the work done in these institutions is anything but thorough.

It may not be generally known that the Toronto Normal School furnishes a test of the relative mental capacity of the sexes, which is as nearly crucial as it is possible for any test of comparative intellectual power to be. The female students of that institution are, when they enter, on the average better grounded than the male students; they generally remain in attendance a longer time, and the standard prescribed for a first-class certificate has in their case always been lower. Up to a certain point they have done better than the men. They have taken rather more second and third class certificates in proportion to their numbers. But at the end of 1869, out of every thousand male teachers in training, 131 had received first-class certificates; while out of every thousand female teachers in training, only 113 had been equally successful. The difference becomes still more striking when the figures for the years subsequent to the raising of the standard are taken into account. For the years 1871 and 1872 the ratio is forty-four to six. Only one female candidate has succeeded in taking a first A since the year 1871.

I do not think that it is possible by any explanation to weaken the inference which naturally follows from these facts. It may be said that out of every thousand women who enter, not so many attempt to obtain first-class certificates as in the case of the other sex. I have not investigated the figures, but my impression is that such is not the case. But if it were the case, what would it prove? Bearing in mind the fact that the female students have attended on the average longer than the male students, it would prove either that they had more difficulty than the male students in taking a respectable stand in the second class, or that their course was broken off by marriage. It is, I think, a rare thing for the course of either a male or female student of the Normal School to be broken off by marriage, and we are therefore compelled to take that horn of the dilemma which is least complimentary to the fair sex. Besides, it must always be borne in mind that a much larger proportion of the female than of the male ability of the country is received within the walls of the Normal School. Men of ability are not driven to teach school to the same extent as women of ability. There are more openings for men who wish to earn their living by their brains than there are for women.

Judging from these and similar facts, I consider it a fair inference to conclude that though up to a certain point the sexes are about equal in capacity for scholastic attainments, after that point is reached the superiority of the average male intellect over the average female intellect becomes manifest. Women ripen mentally as well as physically sooner than men; and though the fruit produced by them is undoubtedly good, it differs in kind. Though a woman's mind is not as well fitted for the work that men do as that of a man, for the performance of her special duties in life it is undeniably superior.

Different, however, as I believe the mind of the sexes to be in capacity and character, I would hesitate to make this difference the basis of an

argument against co-education, did I not believe that it would in the end keep the standard of our highest educational institutions unduly low. The standard of a university is unquestionably, in the long run, determined by the average capacity of those who compete for its degrees. If the average female mind is less powerful than the average male mind, the college that instructs the sexes together must finally have its standard relatively lowered. At first this would not be apparent, because the first female students would be persons of more than average energy; but let co-education become the practice, and the deterioration of the standard will inevitably follow.

In another respect also would the adoption of the principle of co-education be injurious to our colleges and universities. It would bring an enormous pressure to bear in favour of shortening the course, and it would thus tend to intensify that superficiality to which new countries are more or less inclined. I confess that I think it a bad thing that so much haste should be made to finish the education of women, and I would willingly see the period devoted to the development of their minds much lengthened; but in the face of the preference which the majority of men have always manifested for beauty in its early bloom, it will be difficult to accomplish much. At the same time I do not see why exceptional women, who are, and can prove themselves to be, qualified to practise any profession from which they are at present excluded, should be prevented from attempting to earn a living in that profession. We do not prevent women from ploughing; why should we prevent them from practising law? While I think co-education a false ideal, I do not see why society should refuse to profit by the services of individual women in anything which they can show themselves fit to do.

It is, I am convinced, an undeniable inference, from a survey of the various social systems that prevail or have prevailed in the world, that those nations have been most civilized in which the sphere of woman has been most restricted. A Fuegian woman does everything that a Fuegian man does. She picks up shells and plucks berries with him; there is no profession in their country from which she is excluded. As we rise higher in the scale of savage life we find that certain duties, such as hunting and fishing, are performed exclusively by the men, and others, such as cooking and tanning, exclusively by the women, while there is a great borderland of duties which are performed sometimes by the one and sometimes by the other, as tending flocks and herds. Among civilized nations, the lower the grade of civilization, the more out-of-door work is done by women. In no quarter of the world is the tendency to restrict women to in-door occupations more pronounced than in the more civilized parts of Europe and America.

The inference which I draw from these facts is, that as civilization advances, the difference between the work, dress, manners and characters of the sexes increases. To this differentiation of the sexes co-education is opposed. At the very period in their lives when the physical differences become most strongly marked, it labours to lessen the correlated, moral and mental differences, instead of to develop the man or woman as a harmonious whole.

But though I hold firmly that that system which makes men most manly, and women most womanly, will be ultimately most beneficial,

I must admit that the practical effects of co-education in this respect could only be estimated after the lapse of several generations. It is an easier matter to estimate its effects on health.

Whoever reflects on the acknowledged deterioration of the physique of the women of this continent, must come to the conclusion that that fact is a matter of exceedingly great importance. Co-education is, in my opinion, exceedingly unfavourable to female health. Under co-education, young women, at that period of their lives when they are most susceptible to stimulating influences, and when their physical powers most require to be fortified, are forced into an unhealthy competition with incipient young men, whose bodies are hardened by exercise, and who are not aware that they have nerves. Young women frequently surpass young men, but they do it because they are more finely organized, and because they tax their powers as young men seldom tax theirs. It is not to be expected that the consequences will be other than injurious. Is it a right thing that a budding woman of seventeen, who sews while her brothers play cricket, who dresses in garments which prevent her from inhaling a full breath, and which in other ways are injurious to health and an obstacle to exercise, who in fact takes little exercise out of doors, should be incited to do as much brain work as they?

It may be urged that, if we separate the sexes in school, we are returning to the practice and theory of the middle ages, when all intercourse of the sexes was regarded as more or less evil. If I thought that this would be the tendency, I would at once abandon all opposition to co-education. But there is a vast difference between placing all communication between the sexes under a ban, and demanding a separate education for women in the higher interests of the female sex. Does any sensible woman really think that her daughter, at the age of sixteen, will receive more benefit from reciting in a mixed class, than if she attended a girls' school? And how absurd to talk of the refining and elevating influence of girls of that age on boys. I can imagine a woman of twenty-four, with her character formed, exercising a very beneficial influence on boys of sixteen, but I cannot imagine a girl with her mind untrained, her manners unformed, and her character undeveloped, doing it. There is a great deal of nonsense put in print now-a-days, about the refining and elevating influence of woman. I believe in the refining influence of refined and elevated women, but I think that in point of real refinement and moral elevation, the sexes are almost, if not quite, equal.

It is a remarkable fact, that the advocates of joint education never take the trouble to ask what those who must feel the deepest interest in the matter think about it—I mean the women. Women generally come to conclusions on subjects like this, not by a process of reasoning, but by a sort of instinct; yet their instinct often leads them aright. I venture to assert that women do not desire co-education. They desire for their daughters educational advantages equal to those of boys; but only a few of their champions, led away by enthusiastic dreams, demand co-education. The proof of this is, that 999 women out of every 1,000 would, if they could, send their daughters to girls' schools. Let the State open, in any city or town of the United States or Canada where co-education is now the practice, schools for girls, as well equip-

ped in every respect as the present mixed schools, and as inexpensive, and the girls' desks in the school for both sexes would be immediately deserted. The very institutions in the United States that are most frequently referred to by the advocates of joint education, have been compelled to yield in some measure to the pressure of this unspoken demand. At Oberlin, where co-education has been tried on the largest scale, a ladies' course attracts twelve-thirteenths of the female students, one-thirteenth only studying the common course. The fact is, that the advocates of joint education are scarcely ever logical in practice. Distinctions are made between the sexes. The same course is hardly ever enforced on both. The sexes are taught together in many subjects, because that course is economical. Economy is, I at once admit, a valid reason for co-education. But if I were compelled through lack of funds to travel in an ox cart, it might be consistent with human nature, but it would not be logical, to maintain that everybody else ought to use the same means of conveyance.

The fact is, that co-education is impossible unless certain very important things are omitted from the course. What would be thought of a proposal to admit young men to Vassar, with its special lectures on physiology? No sane man would propose it; yet sauce for the goose ought to be sauce for the gander. It is impossible to teach physiology or zoology as they ought to be taught to mixed classes, or to read Aristophanes, Plautus, or Hebrew, with them. One of the most important fruits of an educational establishment is what I may call, for want of a better word, its tone, and this depends largely upon the head master. The head master, whose duty it is to bring the influences under his control so to bear that they will tend to make one portion of his pupils incarnations of manliness, and another section embodiments of womanliness, has to perform an exceedingly difficult—I think an impossible—task.

The whole question, from my point of view, resolves itself into this: Should our ideal of womanhood be the same as our ideal of manhood? I am not prepared to define in words my ideal woman or my ideal man; but I hold this most firmly, that it is the object of education to develop the powers which are in a human being in a harmonious manner. As, therefore, co-education must either take no account of the difference between the sexes, or must distort the one into an imperfect likeness of the other, its tendencies cannot be the best possible.

In conclusion, I again desire to say, that I consider co-education least objectionable where it is most necessary—that is, in places where classes of society have not come into existence. I desire also to reiterate my statement that co-education is better than no education. But I am opposed to setting up mixed schools as the ideal arrangement, and I desire, before closing, to draw the attention of teachers to the practical difficulties that are avoided by separating the sexes for their higher education. You get rid of what is an enormous practical difficulty in some schools—the difficulty about the programme. In many places it is utterly impossible to enforce the same programme on boys and girls. You secure for the girls attention to some points in their manners which are, and must be, practically neglected under the present system. But my main argument, the argument to which all the rest are subsidiary, is, that the physical, moral and mental development of sexes

follow different courses, and that you cannot safely neglect the directions of nature. There is such a thing as the difference of sex. That is the fundamental idea of this paper. While the sexes are young they are physically much alike, and the moral and mental differences are not striking. The question whether we should co-educate at that age is comparatively unimportant. But with the increase of the physical difference between the sexes, there arise conspicuous mental and moral differences. It is then, I think, that it is important to educate separately, because under a system of joint education these differences will be neglected.

"For woman is not undeveloped man,
But diverse : could we make her as the man,
Sweet love were slain ; his dearest bond is this,
Not like to like, but like in difference."

ANTIQUITY AND DIGNITY OF PUBLIC TEACHERS.

BY MR. ROBERT MACQUEEN, TEACHER.

How varied are the feelings with which we contemplate the different objects presented to our view, whether in the domain of nature, the province of art, or the range of our civil and social institutions. The emotions of awe, fear, admiration, astonishment and veneration in turn possess our minds, just as the objects presented to us or passing before us are fitted to inspire the one or excite the other of these sensations. Thus, as we gaze on the towering mountain that rears its snow-capped summit in majestic grandeur far into the azure vault of heaven, piercing through the region of clouds and storm, and frowning in lonely majesty on the tempests that rage around its bosom, or the turmoil and tossing which conflict around its base ; while we behold and contemplate that monument of Omnipotence, that type of immutability, pointing us upward to the Almighty source from which it derived its being, to that Almighty hand which digged its deep and broad foundations and reared aloft its hoary summit, we are filled with the deepest awe. Again, when on the verge of the horizon there is seen the snowy-looking cloud stretching right and left, and swelling upward like the foam-covered crest of the approaching wave, as it lifts itself slowly toward the zenith it reveals a dark and frowning base ; when hark ! there comes the roll of the distant thunder, and ever and anon, as it majestically rolls up its vast proportions until it covers the face of the heavens, there darts from its swarthy bosom the vivid lightning's fiery gleam. Anon there is heard a low and sullen moan ; the snowy crest has disappeared ; the seething, working, rolling mass has reached—has passed the zenith, and is descending to the opposite horizon. Nature is hushed and silent, the herds have ceased to graze and have gathered quietly together in mute expectancy, the birds have left the heavens and sought a place of shelter, the voice of their singing has ceased from the grove, the faintest breeze

has ceased to blow, the tiny spray no longer quivers to its gentle motion, the very aspen has ceased its trembling. All below is silent, hushed, subdued; while above the surging mass has darkened and lowered—the distant and sullen moan has swelled to an ominous roar. In an instant from that lowering canopy there bursts the fiery bolt that for a moment withers up the darkness as if it had rent that cloudy veil in twain, followed by a crash which causes the earth itself to tremble, and the mightiest works of man to vibrate to their very foundations. The windows of heaven are opened; the watery torrents are poured on the earth, dashed hither and thither by the wind, now raging in its fury, laying low those giant sons of the forest that for centuries have reared their stately trunks aloft to heaven, whose roots have embraced the solid earth or twined and crept into the crevices of the everlasting rocks, whose sturdy arms for ages have wrestled defiantly with the winter's blast, or played gleefully with the summer's breeze. What a scene of conflict! and commingling with it is the livid lightning's lurid glare, while high above all is heard the voice of the Omnipotent, the rolling thunder. When we behold and listen, we are thrilled with a sense of the terrifically grand. Turn again to the majestic river as it rolls its current to the mighty ocean—whether it soothes us with its gentle motion as it glides placidly along, or stirs us as it rushes foaming o'er the rapid, or thrills us as it plunges down the cataract, as it hurries onward to the main, to be drawn thence by the rays of the sun, and wafted by the ocean breeze to its mountain home, again to trickle down its glacier gorges and ripple through its verdant valleys, once more to join the parent stream. When we consider the complexity of forces, the simplicity of action, the magnitude of the results and the minuteness of the parts, and the multitude of benevolent purposes which are served by their operation, we are filled with admiration at the display of the Divine wisdom, power and goodness. Again, leaving the domain of Nature, and entering the province of Art—whether we view it in the hoar austerity and massive grandeur of the Pyramids and other remains of ancient Egypt, the beauty of design and perfection of finish of the schools of Greece, the vastness of conception and enduring nature of Roman art yet visible in the massive remains of her stately Coliseum, or in the extant specimens of the stately and gorgeous architecture of the mediæval ages which excite the wonder and admiration of the present day. Again, leaving the more remote, and passing to the achievements of our own times. The Menai has been bridged with iron; the mighty St. Lawrence has been spanned; the Alps have been tunnelled; the Atlantic has been telegraphed; material barriers have been overcome; time and distance have been annihilated, so that now it almost may be said “there is no more sea.” The great physical barrier which separates the nations of the earth has become the medium through which passes the unseen but mighty magnetic bond, uniting the old world and the new, and stretching westward to the Pacific, soon to pass under and unite the new world to the old, forming a great beating pulse around the earth, and bringing its every kindred and people within speaking distance of each other, going far to the re-uniting of the broken bond of the brotherhood of the human race. When we review the past and contemplate the present, we are filled with astonishment and wonder—astonishment at what has been accom-

plished, and wonder is excited as to what will next be attempted, and ultimately successfully accomplished. Leaving the province of Art, let us glance briefly at our civil and social institutions; and first among these stands our "Trial by Jury," long and justly esteemed as the central column and crowning glory of our civil and criminal jurisprudence. Next in order is the "Magna Charta," at once the first foundation stone of our civil liberties and of English nationality. Wrested by force from a profligate and despotic sovereign, and laid in troublous times, it was often drenched with blood or trampled on by tyranny, but it ever remained deeply engraven in the popular heart, and not only did it remain, but it ever and again re-asserted the undying vitality and innate energy of those principles that first gave it being. It has thus not only existed, but it has multiplied itself in all the free governments that have existed since that time or that are existing now, and of which it was the great prototype. And last we have our "Habeas Corpus Act," that great bulwark of individual liberty and personal freedom. Wrested from despotic and arbitrary hands, it has been guarded with jealous care, and hedged about with more than fifty Acts of Parliament. We venerate these institutions, and they claim our veneration not only for their antiquity and intrinsic excellence, but also for the privileges which they confer and secure, and for the patriotic associations connected with them. Passing to our social institutions, we notice but one. More venerable and ancient than any of these, and destined to co-exist with them, if not to outlive them all, is "The Family," existing from the beginning of time by Divine appointment, and governed by laws sanctioned by Divine authority. It is the prototype of the nation; and the right exercise of parental authority and the firm administration of family government form the strongest bulwark against lawlessness of every kind, and the surest guarantee for the prosperity of the commonwealth and the stability of our social and political institutions. Contemporaneous with the family, in one form or other, in one place or another, during every period of the world's history, has existed the office of the public teacher. Whether, as in the patriarchal times, when the offices of king, priest and teacher were combined in one and the same individual, when the head of the family led in the time of war, legislated and instructed in the time of peace, or when in process of time this system merged into the Hebrew commonwealth, in addition to the functions of each head of a family, there was set apart a class of persons for the purpose of public instruction, and for whose support by the people at large express provision was made, and these individuals existed as a distinct class during all the chequered history of the Monarchy, the Captivity, and, after the return, down to the time of the final destruction of the Jewish nationality and the dispersion of that people throughout the world. To return again to Egypt. The massive ruins of her extant architectural remains are an evidence of grandeur and magnitude of conception, combined with durability and strength of execution; the undimmed brilliancy of the colours of her fresco paintings, after the lapse of three thousand years, convinces us that they were masters of that art. These frescoes at the same time give us a painted history of national enterprises, and ample illustrations of the modes of life and employments of her citizens, and show her to have been a highly

civilized nation when the Hebrews were a race of slaves, and that to the schools of Egypt the Hebrew Lawgiver himself was deeply indebted for the education which so eminently fitted him for the position which he afterwards occupied. It is true that an acquaintance with the subjects referred to was chiefly confined to a certain class, who held the keys of learning, and admitted only the favoured caste into the temple of knowledge. Coming down to later times in the history of that country, when, after the founding of Alexandria, it became the royal residence of Ptolemy Lagus, by whom its famous museum was founded, which for nearly one thousand years continued to be the asylum of learning and the resort of learned men, and the chief seat of mathematics, philosophy and literature in general, among the honoured names of those famous in art or science who taught or were taught within its precincts, I need only mention one, viz., Euclid, the author of the "Elements," and who had at least one king for a pupil; and that one work of his has exercised a more than kingly influence through all succeeding ages. It has been translated into the languages of all the nations that have made any advance in civilization, and has been more generally used for the purposes of teaching than any work in abstract science that has ever appeared; and, even amid the gigantic strides of modern science, no work has yet appeared which has superseded it to any extent. We need not more than refer to the schools of Athens, and the enduring influence they have exerted in all the departments of architecture, sculpture, painting, literature, law and language; and even after she had fallen before the Roman power, her schools continued to be the resort of her conquerors. The natives of Italy, Africa and Britain mingled in the groves of her academies with their fellow-students from the East. Her living masters emigrated to Italy and Asia, forming new centres of intellectual power, and honourably sustaining the prestige of their native city. To conclude, in the words of Macaulay: "Though her freedom and her power have for more than twenty centuries been annihilated, her people have degenerated into timid slaves, her language into a barbarous jargon; yet her influence and her glory still survive, and will survive, fresh in eternal youth, exempt from mutability and decay, immortal as the intellectual principle from which they derived their origin, and over which they exercise their control." And if in ancient times the position, duties and influence of the public teacher were so dignified and honourable, so intimately connected with all that elevated for the time being, with all that has resisted the hand of time, and survived decay's effacing fingers, whether in the material, mental or moral world, has it, we would ask, become less dignified and honourable in modern times? At the commencement of our era the conquests of Rome had pushed her empire almost to the limits of the then known world; she had consolidated the civilization of Greece; she had carried her laws and language to the remotest corners of the earth; she was in the noontide of her prosperity, the plenitude of her power, and the height of her intellectual glory. Her citizenship was a mantle of protection to all who lived under its shadow. She was just entering on that course of luxurious ease and debauchery of life which ultimately wrought her intellectual eclipse and national destruction. As time rolled on, the leaven of Christianity permeated the mighty

mass, and ultimately ascended the throne of the Cæsars. This prosperity was too much for it. Aiming at accommodating itself to the gorgeous rites of paganism on the one hand, and to the Jewish ceremonial on the other, it lost its individuality as a system and its vitality as a moral and intellectual power at one and the same time. With its decadence learning declined, instruction was withheld from the masses, the key of knowledge was usurped by those whose interest it was to keep the people in ignorance. Seats of learning declined and diminished, until only in scattered monasteries was aught but the grossest ignorance to be found. The lamp of truth was hidden, the rights of conscience were ignored, private judgment was refused—the night of the dark ages settled down on the civilized world. It is true that a class of teachers even then existed, but their great object was not to elevate the masses, but to debase them; not to train them to exercise their own judgment, but to teach them that they had no right to judge for themselves. Yet even then there was evidence that the minds of men groaned under the grinding tyranny to which they were unwillingly subjected. A few here and there were found with boldness sufficient to protest against the wrong and to maintain the right; and although they were put to silence by the scaffold and the stake, yet they were the precursors of the dawn of the Reformation, that revolution at once mighty and momentous, immediate in its results and lasting in its consequences, freeing men from mental tutelage and physical slavery, and laying deeply and broadly the foundations of civil liberty and religious toleration. It has influenced the law and language, the legislation and literature of the civilized world. It has guided the researches of learned investigation, and directed the march of modern times. In its richest gift and greatest boon, an open Bible, it has secured to the human race the one infallible rule of faith and manners, and established the right of every individual to read and judge for himself, as between God and his own conscience, of the truths therein revealed. It has elevated the philosophy of the past, and stamped the character of modern science down to the present time. The vitality that it begat, the energy that it imparted, still form the mainspring of all the religious effort, the political stability, the philosophic researches and scientific discoveries of our own age and day. And in every land in which its principles have obtained a foothold, one certain result has been, and is, the establishment and support of schools and school systems, the elevation and education of the masses, the giving dignity and responsibility to the position and duties of the school teacher—everywhere begetting and diffusing that spirit of inquiry and manly independence, that hatred of tyranny and despotism which has refused and refuses to be trampled on either in matters of conscience or civil right—such a spirit as animated the Pilgrim Fathers when, for conscience sake, they left their native land and sought an asylum on this side the Atlantic, where broadly and deeply they laid the foundations of that civil liberty and religious equality which are the glory of this continent. They did more; they laid the foundations of that school system from which our own is copied. They were the first to conceive and act upon the great principle on which all truly national systems of education are or have been founded since that time, viz., that the property of all should be

taxed by the majority for the education of all. And here we beg leave to digress, and briefly notice the time, circumstances and some of the individuals connected with the founding of the school systems of this continent. And we remark that though in some instances the anticipated results have not been achieved, yet *that* failure is no reflection on the patriotism and wisdom of the founders, nor due to any defects inherent in the system of which they sketched the outlines, but from the want of a due sense of the importance of securing the benefits conferred thereby on the part of those most deeply interested. But to return. The earliest notice of these events is found in the records of the city of Boston for the year 1635, when, at a public meeting, a school-master was appointed "for the purpose of *teaching* and *nurturing* the children among us," and "That a portion of the public lands be given him for his support." This was within five years from the time of the first settlement of that peninsula, before the humblest wants of its inhabitants had been supplied; when their very subsistence was precarious and uncertain, and when they lay down at night it was at the peril of their lives, from the savages that hemmed them in on every side or dwelt in their midst. The example of Boston was imitated by the other little villages which were springing up in the wilderness. Governor Winthrop, in his journal of 1645, says that "divers free schools were erected in that year in other towns," and that "in Boston it was determined to allow for ever £50 a year to the master, with a house, and £30 to an usher." But thus far only individual towns had acted. In 1647, however, the Colonial Assembly of Massachusetts made provision by law that in every town in which there were fifty families a free school should be kept, in which reading and writing should be taught; and in every town in which there were one hundred families, a school should be kept in which the youth could be prepared in Greek, Latin and mathematics for the university, which in 1638 had been established at Cambridge. In 1656 and 1672 the colonies of Connecticut and New Haven enacted similar laws, thus laying the foundation of that system which, with the increasing population and succeeding times, has become a prominent characteristic of that people, lasting to the present time, unimpaired in its vitality and unshorn of its pristine vigour. Before leaving this point we would call attention for one moment to the following things: 1st. The position assigned to the teacher, viz., that of "teaching" and "nurturing" the children. He was not considered merely as an individual who, for so much money, was to do a certain amount of work, but as a co-worker with the parents themselves, not only in communicating instruction and imparting knowledge, but in the inculcation of moral principle as well; and to the sterling principle possessed by these men, to their moral stamina, perpetuated by them through those early teachers, may be traced that vital energy which resisted oppression and came off victorious, which has withstood to this hour the influx of the scum of Europe from without, as well as the shock of rebellion from within. 2nd. We may smile at the proposed amount of compensation, but to estimate it rightly we have to consider the ability and circumstances of those who voluntarily entered into that agreement. We have to remember that the first steps were taken within five years from the time of their landing in that uncultivated wilderness;

and that within the next twelve years the representatives of the people in the Legislative Assembly of the colony affirmed and established as the law of the land that which had been carried out before by the scattered settlements buried in the depths of the forest, when the whole population did not exceed twenty-one thousand souls; when the means of the people were limited, their dwellings humble, their raiment scanty, their subsistence of the homeliest kind; when the total valuation of the property then held did not reach the amount held by many individuals of the present day; when the whoop of the savage mingled with the howl of the denizens of the forest. It was in circumstances and amid privations such as these that the Pilgrim Fathers conceived the idea of a free and universal education for the people. Amid their poverty they stinted themselves to a still scantier pittance; amid all their toils they imposed on themselves still more burdensome labours; amid all their perils they braved still greater dangers, that they might find time and means to reduce their grand conception into practice. Two grand ideas filled their minds: their duty to God and to posterity, for the one they built the church, for the other they opened the school. Theoretically, the system which they adopted might have been silenced or refuted by a formidable array of arguments and experience. But time has ratified its soundness, and, after the lapse of more than two centuries, we were glad to adopt the principle as the basis of our own school system; and although we have often amended our School Law—and it needs amending still—yet, in its fundamental theory and practical elements, it still retains, and will retain, its resemblance to its great prototype. But as at the period when the system was established, so in all succeeding times, and in our own day as well, the great and immediate instruments of practical success have been, and are, the teachers themselves. On their moral status and mental power, their energy and faithfulness as a class, in a great measure depends the success of any school system. The close and almost indissoluble connection existing between the possession of these qualities by the teacher on the one hand, and permanent success on the other, will be at once apparent if we look for a moment or two at the relationships which the teacher sustains and the duties which he is under obligation faithfully to perform. And first we notice, that he sustains a certain relationship to the State. Though not employed immediately by the State, nor directly responsible to it, yet we are employed by and are under the authority of those whom the State has constituted its executive in this department. We thus become the subordinate instruments of the State for giving effect to those provisions which it has made for the education of its members; and on us more immediately as a class rests the responsibility of seeing that the behests of the State are fully carried out. And the State has a right to expect that we not only faithfully discharge that trust in the matter of imparting to the utmost of our power a knowledge of the various branches of study suited to their circumstances and capacities, but that we also instruct them as to what their own relationships are to the State, and what their duties are as members of it; that we impress them with the obligations under which they lie to yield a due and loyal subjection to all lawfully constituted authority; that we inculcate a law-abiding spirit as lying at the very foundations of social peace and national prosperity; that we seek to inculcate the responsi-

bility which rests on them for the right use of all the privileges which they enjoy and the opportunities which they possess for fitting themselves to fill, honour and discharge with ability and usefulness the duties of any position which, as citizens of this country, they may be called to occupy, whether in a social or public capacity; and above all, their responsibility to God himself as the ultimate source of all obligation; their responsibility to God, not as "the great indefinite something," "the not ourselves," "the stream of tendency by which all things fulfil the law of their being,"—that too indefinite something to be much of anything, the creation of modern days,—but a personal, *the living and true God*, from whom they had their being, in whom they live, and unto whom they must render their final account; and their obligation to make His word their rule of life, as being at once the grand fountain of moral ethics, and the purest source of political economy. Second, the teacher sustains a certain relationship to *society*: that while frowning down all aping of the meaningless cant or flippant hypocrisy of what is termed "fashionable society" on the one hand, and the slang expressions of "vulgarity" on the other, it is yet demanded of us that we not only encourage, but seek to cultivate in our pupils, all the true civilities of social life; that we seek to cultivate in each that due self-respect which lies at the root of all respect for others; to cultivate in them an openness of manner void of impudence, a combining of frankness of address with modesty of demeanour, the habit of freely expressing and firmly maintaining their own convictions without domineering over or seeking to dictate to others. We should train them to avoid the habit of speaking rashly or judging hastily, as being essential to their usefulness and indispensable to their own and their neighbours' peace. And above all, it is ours to cultivate and cherish that large-heartedness which finds its chief enjoyment and highest happiness in seeking the welfare of others and the general good of all; that unselfishness of disposition which precludes the possibility of any individual feeling and acting as if the world had been made for himself or herself only. Third, the teacher stands in certain relationship to the *family*. We are summoned by the parents to share their authority with them; and that authority we are bound to exercise with the utmost vigilance, firmness and affection. The health of the children is committed to us as well as the cultivation of their intellects and affections. And as virtue does not always follow in the train of knowledge, and knowledge without virtue is fraught with danger to the individual and society, we should therefore bestow our first care on the cultivation of the moral faculties of our pupils. It should be our earnest and unceasing endeavour to implant, to propagate and establish those imperishable principles of morality and right reason, without which universal order is in danger, and to sow in the young hearts committed to us those seeds of virtue and honour which age, riper years and the passions will never efface or destroy. To secure this, all intercourse between the teachers and parents must be founded on mutual trust and presided over by kindness. Where teachers lack the respect and sympathy of the parents, it tends to compromise their authority over the children, and the fruit of their teachings is apt to be lost. Too great care and prudence cannot therefore be exercised in this respect. It may be

impossible in some instances to secure this, while in others it may be possible to secure the confidence and affection of the children where that of the parents is not only withheld, but a feeling of distrust or dislike supplies its place; and yet the possession of both is a thing to be earnestly desired and sedulously cultivated. Above all, in this connection, it is ours to see that the time-honoured and divinely-sanctioned names of father and mother are not allowed to give place to the slang terms of "the old man" and "the old woman." It is ours to inculcate that filial piety, that honour and obedience to parents, which are the great sources of domestic happiness and the primal elements of social order. It is ours to cultivate the idea of home, and the paramount importance as well as the pre-eminent position of the domestic duties as compared with the social and political. The giving an undue prominence to the latter of these is a tendency of the present time—a tendency fraught with danger to domestic quiet and social stability, by detracting from the sanctity of the one and undermining the other at its base. For the paternal charities of no commonwealth however wise, or social duties however beneficent, can form a substitute for the home sympathies and household bonds, or the personal ties of love and esteem. Again, we sustain a certain relationship to the pupils themselves—a relationship the most intimate in its nature as well as the most far-reaching and enduring in its results. Our first object is to secure their confidence, and when once secured it is a most unbounded trust. We become their counsellors and confidants, the repositories of their little griefs, the righters of their wrongs, their authority for acting or refusing to act. "I'll tell the master" is their watchword against oppression to themselves and a check on wrongdoing in others. It is the defence of the weak against the strong, carrying with it the express conviction that in that appeal their every right will be maintained and every wrong-doer punished. How powerful the influence for good or ill thus placed in our hands, and how deep the obligations under which we are laid to use it for the present benefit and everlasting welfare of those who are thus entrusted to us! And for my own part, even when the relationship has ceased to exist, I confess to having a kindly interest in those who have once sustained it. Their good name is dear to me; their success in life an object of desire; their good conduct a more abundant recompense than aught else could afford me, as being at once a reward of my labours and a guarantee of their future usefulness—an adding to the aggregate of that morality which is the golden thread of conjugal felicity and domestic tranquillity, the silver cord of social order and the security of public honour, the bulwark of civil liberty and the basis of religious toleration, the sure foundation and crowning glory of all true national prosperity and greatness. It may be urged that in all this we are setting up an ideal standard that is utterly unattainable. I have only to reply that lower than this and less than this is beneath the dignity of our true position, and falls short of our obligations, and that in all matters of duty we are sure to fall below the mark; and it is certain that if our aim is low, our attainments can never be high. Having thus glanced at the "antiquity" and "dignity" of the profession to which we belong, and the intimate connection that ever has subsisted between the faithful

and energetic discharge of its duties and the social elevation and civil enlightenment of the masses in every age and country in which its true importance has been recognized and acknowledged, I now record my own conviction that after all the legislating and planning for the elevation of the profession in our own country and day, such a result can only be achieved by each individual teacher apprehending the true dignity of his position and the depth of his obligations to the faithful discharge of its duties, realizing that the maintenance of his own individuality of character and practice must form an essential element of his success without seeking to force himself through any "prescribed groove" in any "prescribed time," however beautiful in form or perfect in allotment that ideal may be. The teacher who seeks to conform to the letter to any such cast iron rule will be under the necessity of paring himself on the one side and plastering himself on the other till his own identity is completely eliminated, and he finds himself a sort of nondescript made up of fragments that are utterly lacking in that fitness and adaptability to each other which are essentially necessary to that sustained and energetic effort that lies at the root of all success. But avoiding such a course as this, and, under a due sense of the dignity and responsibility of our position, concentrating all our energies on the duties of our trust, we cannot live without an influence, nor pass away without leaving deep and lasting impressions behind us—impressions that will widen and deepen as ages run their course—that however circumscribed our sphere of labour may be, how little soever we may be known to the world, yet our energies and efforts, thus directed, like pebbles cast into the stream of time, will send their expanding, deepening and extending ripple onward to the broad ocean of eternity.

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MESSRS. JAMES CAMPBELL & SON

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The Toronto School of Medicine,

IN AFFILIATION WITH THE UNIVERSITY OF TORONTO

XXXII. SESSION, 1874-75.

- JOSEPH WORKMAN, M.D., Medical Superintendent of the Provincial Asylum for the Insane, Emeritus Lecturer on Midwifery and Diseases of Women and Children.
- WM. T. AIKINS, M.D., *Surgeon to the Toronto General Hospital and to the Central Prison*, Lecturer on Principles and Practice of Surgery, 78 Queen Street West.
- H. H. WRIGHT, M.D., L. C. P. and S. U. C., Lecturer on Principles and Practice of Medicine, 197 Queen Street East.
- J. H. RICHARDSON, M.D., M.R.C.S., Eng., *Surgeon to the Toronto General Hospital and Toronto Jail*, Lecturer on Descriptive and Surgical Anatomy, 120 Bay Street.
- UZZIEL OGDEN, M.D., *Physician to the House of Industry and Protestant Orphans' Home*, Lecturer on Midwifery and Diseases of Women and Children, 57 Adelaide Street West.
- JAMES THORBURN, M.D., Edinburgh and Toronto Universities, *Physician to the Toronto General Hospital and Boys' Home*, Lecturer on Materia Medica and Therapeutics, Wellington and York Streets.
- M. BARRETT, M.A., M.D., *Medical Officer to Upper Canada College, and Lecturer on Physiology, Ontario College of Veterinary Medicine*, Lecturer on Physiology.
- W. W. OGDEN, M.B., *Physician to the Toronto Dispensary*, Lecturer on Medical Jurisprudence and Toxicology, 242 Queen Street West.
- M. H. AIKINS, B.A., M.B., M.R.C.S., Eng., Lecturer on Primary Anatomy.
- W. OLDRIGHT, M.A., M.B., *Physician to News Boys' Lodging House*, Curator of Museum, and Lecturer on Sanitary Science, Duke Street.
- L. M. MCFARLANE, M.D., *Physician to the Toronto Dispensary*, Demonstrator of Anatomy, 9 Cruickshank Street.
- GEORGE WRIGHT, M.A., M.B., *Physician to the Toronto Dispensary*, Demonstrator of Anatomy, 150 Bay Street.
- ALEX. GREENLEES, M.B., Tutor in Chemistry, Church Street.
- R. ZIMMERMAN, M.D., L.R.C.P., Lond., 131 Jarvis Street; and
- F. H. WRIGHT, M.B., L.R.C.P., Lond., 197 Queen Street East, Microscopy and Histological and Pathological Demonstrations.
-
- HENRY H. CROFT, D.C.L., F.L.S., Professor of Chemistry and Experimental Philosophy at University College.

Clinical Lectures will be given at the General Hospital by Dr. Aikins, Dr. Richardson and Dr. Thorburn. Arrangements are completed for conveying students, free of charge, to and from the Hospital.

JAMES PICKERING, Janitor of School.

MINUTES

OF THE

FIFTEENTH ANNUAL CONVENTION

O

THE ONTARIO ASSOCIATION

FOR THE

ADVANCEMENT OF EDUCATION,

HELD IN THE

THEATRE OF THE NORMAL SCHOOL BUILDINGS, TORONTO,

ON TUESDAY, AUGUST 10TH, 1875.



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HELD IN THE THEATRE OF THE NORMAL SCHOOL BUILDINGS, ON
TUESDAY, THE 10TH AUGUST, 1875.

The President, Professor Goldwin Smith, in the Chair.

At 3 o'clock in the afternoon, the Rev. Mr. Grant, at the request of the President, read a portion of Scripture, and led the Convention in prayer.

The Roll of Officers was called by the Secretary.

Moved by Mr. W. McIntosh, seconded by A. Macallum, M.A.,

That the Minutes of the previous meeting having been printed and circulated among the members, be considered as read.

The Secretary gave information with reference to the arrangements with railway companies.

The Treasurer, Mr. S. McAllister, read his Report, which showed that the affairs of the Association are in a most satisfactory state, financially.

Mr. McMurchy moved, seconded by Mr. A. Macallum,

That the Treasurer's Report be received and adopted.

The President nominated the following Auditing Committee to examine the Treasurer's Statement:—Messrs. Hughes, Dearness and Dickenson.

A. McCallum, M.A., read an interesting Essay on Compulsory Education.

The discussion of the subject was participated in by Messrs. J. B. McGann, David Boyle, W. McIntosh, Platt, D. Johnston, J. Hughes, W. W. Tamblyn, J. H. Smith, J. C. Glashan, H. J. Brownlee, and Rev. G. Grant.

It was moved by Mr. John R. Miller, seconded by Mr. D. Johnston,

That the thanks of the Association be tendered to Mr. Macallum for his able Essay.

Mr. Miller moved, seconded by Mr. Hughes, that the Association adjourn until 7.30 p.m.

EVENING SESSION—7.30 P. M.

The President in the Chair.

The President delivered his Annual Address, which was practical and well received.

Rev. Dr. Ryerson was present, and, by invitation, addressed the Association.

The discussion on Mr. Macallum's paper on Compulsory Education was resumed, in which the following members took part:—Messrs. D. Johnson, E. Scarlett, J. Irwin, A. McQueen, A. McMurchy, and W. McIntosh.

After considerable discussion on this subject, the Association came to the following resolution :

Moved by Mr. W. McIntosh, seconded by Mr. D. H. Smith,

That as enough time has not yet elapsed for testing with any degree of thoroughness the practical value of the compulsory clauses of the School Law, this Association deems it unwise to ask for any change in the law, but would press upon all parties concerned the prime importance of enforcing the law as at present existing.

Mr. Hughes gives notice that he will on to-morrow move,

That Clause No. 8 of the Constitution (relating to the election of officers) be amended by inserting the words "by ballot" after the words "elected annually."

The Chairman announced that the different Sections were to meet at 9 o'clock in the morning on the following day, after which the Convention adjourned.

WEDNESDAY, *August 11th*, 1875.

The President, Professor Goldwin Smith, in the Chair.

Rev. Mr. Grant opened the Convention by reading a portion of Scripture and engaging in prayer.

The Minutes of the previous meeting were read and confirmed.

The President made some remarks in reference to his Annual Address, and on the expression of feeling it elicited from the Rev. Dr. Ryerson, especially on matters connected with the actions of the Council of Public Instruction.

Professor Wilson was requested to address the Association, but declined to take up the time without previous preparation. The Professor acted as Chairman for a short time, while it was

Moved by A. McMurchy, seconded by Mr. J. Hughes,

That the most cordial thanks of the Association be and are hereby tendered to Professor Goldwin Smith for his timely and practical Address.—Carried.

Mr. James Hughes moved, seconded by E. Scarlett,

That Clause No. 8 of the Constitution (relating to the election of officers) be amended by inserting the words “by ballot” after the words “elected annually.”—Carried unanimously.

A. McMurchy gave notice of amendment to Constitution.

J. Thorburn, M.A., read an Essay on certificates to Public School Teachers, “How and by whom Granted.”

A spirited discussion ensued, in which the following members took part, viz., Messrs. A. Macallum, W. A. Douglas, J. L. Deacon, John Miller, E. Scarlett, G. D. Platt, D. Johnston, and S. McAllister.

E. T. Crowle, M.A., moved, seconded by Thos. Kirkland, M.A.,

That this Convention deems it desirable that in order to secure a third class certificate a candidate should obtain 30 per cent. of the marks for each paper, and 50 per cent. of the aggregate number.—Lost.

Moved as an amendment by Mr. W. McIntosh, seconded by Mr. E. Scarlett,

That in the opinion of this Association the Council of Public Instruction should issue a regulation definitely giving Local Boards of Examiners the power to exact a minimum of not higher than 50 per cent. of the aggregate number of marks in each of the subjects of Arithmetic and Grammar.—Carried.

Moved by Dr. Kelly, seconded by Mr. A. Macallum,

That a hearty vote of thanks be given to J. Thorburn, M.A., for his admirable paper on certificates to Public School Teachers.

The subject of School Taxation was introduced by Mr. D. J. McKinnon, Inspector of Public Schools (Peel).

The following members took part in the discussion, viz., Messrs. H. J. Strang, W. W. Tamblyn, R. McQueen, J. W. Connor, W. B. Harvey, A. Miller, and D. Boyle.

Moved by Mr. W. McIntosh, seconded by Mr. W. B. Harvey,

That a hearty vote of thanks be tendered to Mr. McKinnon for his valuable remarks and suggestions on School Taxation.—Carried.

Moved by Mr. D. J. McKinnon, seconded by Mr. W. B. Harvey,

That the municipal council of each township should be required to levy upon all the ratable property of the municipality an equal rate, from which to pay to the local trustees of each school section a sum equal to two-thirds of the average salary of teachers in such municipality during the year then last past.—Carried.

Messrs. Little, McIntosh, Rose, Boyle and John Miller took part in the discussion.

Moved by W. McIntosh, seconded by W. Johnston,

That in the opinion of this Association, the Public School Fund, Legislative and Municipal, should be distributed among school sections as follows: One-half in proportion to the rates of school taxation in the various sections, and one-half according to average attendance.

Moved in amendment by Mr. R. Little, seconded by Mr. J. R. Miller,

That the Legislature and Municipal Grants be apportioned on the per centage of the average attendance compared with the number of enrolled pupils.—The motion was carried.

EVENING SESSION.

The President in the Chair.

Professor Caven delivered an admirable lecture on "The Teacher's Love for his Profession."

Moved by J. Thorburn, M.A., seconded by the Rev. Mr. Grant,

That a cordial vote of thanks be given to the Rev. Principal Caven for his able address to this Association.—Carried.

The President invited the Rev. Archbishop Lynch to address the meeting. His Grace kindly complied and made a few appropriate remarks, bearing principally on the teacher's influence, position and responsibility, which were well received.

The following delegates reported on behalf their Associations:

Rev. Mr. Grant, Norfolk.

Mr. W. McIntosh, North Hastings.

" J. W. Connor, } Waterloo.

" Brownlee, }

" David Boyle, Wellington.

" Wm. Williams, } Georgian Bay.

" W. B. Harvey, }

- Mr. John Miller, Elgin.
" J. J. Tilley, Durham.
" D. Fotheringham, North York.
" J. Irwin, South Hastings.
" J. Campbell, Toronto.
" H. Dickenson, Brant.
" J. H. Smith, Wentworth.
" E. Scarlett, Northumberland.
" S. Deacon, Oxford.
" J. R. Miller, Huron.
" G. D. Platt, Prince Edward.
" Mc. Dearness, East Middlesex.
" Monroe, Ottawa.

Mr. J. Thorburn gives notice that he will on to-morrow move,
That this Association hold its meetings next year in the City of
Ottawa.

Moved by A. McMurchy, seconded by Mr. D. Johnston,

That the Board of Directors be constituted as follows: A President, three Vice-Presidents, a Recording Secretary, a Corresponding Secretary, a Treasurer, and the three Standing Committees of the three Sections of the Association. The Vice-Presidents shall be the Chairman of each of the Standing Committees in the order following: Public School Masters, Inspectors of Public Schools, and High School Masters, and changing each year in the same order.

The Association adjourned.

THURSDAY, *August 12th*, 1875.

The President in the Chair.

Dr. Crowle opened the meeting by reading a portion of Scripture and prayer.

Minutes read and confirmed.

Report of Committee appointed to take into consideration the advisability of changing the time of the annual meeting of this Association:

Your Committee beg leave to report that the time of the annual meeting of this Association be not changed.

All of which is respectfully submitted.

—Carried.

ROBERT ALEXANDER,
Convener.

Mr. J. Thorburn moved, seconded by Mr. Platt,

That this Association hold its meetings next year in the City of
Ottawa.

On a division of the members the motion was lost.

Report of the Nominating Committee :

The Nominating Committee beg leave to recommend that the following gentlemen be the officers for the ensuing year :—

President—Rev. Principal Caven.

Recording Secretary—Archibald McMurchy, Esq., M.A.

Corresponding Secretary—Thomas Kirkland, Esq., M.A.

Treasurer—Samuel McAllister, Esq.

E. T. CROWLE,

Chairman.

Mr. Kirkland moved, seconded by Mr. Dawson,

That Dr. Ryerson be appointed President of the Association for the coming year.

Mr. Kirkland and the Secretary having been appointed Scrutineers, a ballot was taken with the following result :—Rev. Dr. Ryerson, 36 ; Principal Caven, 26.

Mr. Kirkland suggested that the vote be made an unanimous one in favour of Dr. Ryerson.

Several delegates opposed this, and the vote was allowed to stand as taken.

The following officers were elected by an unanimous vote :

Recording Secretary—Archibald McMurchy, Esq., M.A.

Corresponding Secretary—Thomas Kirkland, Esq., M.A.

Treasurer—Samuel McAllister, Esq.

The following are the Vice-Presidents, who hold their office by virtue of their Chairmanship of the Public School Teachers' Section, the Inspectors' Section, and the High School Teachers' Section of the Association :—

First Vice-President—Mr. Robert McQueen.

Second Vice-President—Mr. James Hughes.

Third Vice-President—John Seath, M.A.

The President called on Mr. H. Dickenson to read his paper "On the Relation between High and Public Schools."

The reading of the paper was attentively listened to throughout, and was loudly applauded.

The following members took part in the discussion of the subject of Mr. Dickenson's paper, viz., Messrs. J. H. Knight, James Hughes, J. B. Bradley, J. W. Tambllyn, W. Johnston, and A. MacMurchy.

Moved by Mr. W. Johnston, seconded by Mr. J. B. Harvey,

That the Preparatory classes in High Schools be abolished.

Rev. George Grant, Dr. Kelly, Mr. Hodgson and the Secretary, opposed the motion.

The President and Mr. Buchan (High School Inspector) having been called upon, made some very practical remarks bearing on the subject of the Essay and last resolution.

Moved by Dr. Kelly, seconded by Mr. Hughes,

That a vote of thanks be given to Mr. Dickenson for his Address, which was carried unanimously.

The Reports of the various Sections of the Association were presented :

Public School Section, by Mr. H. Dickenson.

High School Section, by the Secretary.

Public School Inspectors, by Mr. Hughes, who also gave a short report on behalf of the "Industrial School Committee." Reported progress, and obtained permission to sit again, Mr. Hodgson's name being substituted for Mr. Grote's, who has retired from the profession.

Mr. Houghton moved, seconded by Mr. McMurchy,

That a vote of thanks be tendered to the various railway companies which had granted favourable terms to the delegates attending the Convention; to the Chief Superintendent of Education for the use of the building; and to the reporters of the Press for their fair and accurate reports of the proceedings.

Mr. Buchan moved, seconded by Mr. Houghton,

That the hearty thanks of the Association be tendered to the retiring President for the able manner in which he had performed his duties.—Carried.

The Convention then closed by singing the National Anthem.

ARCHIBALD MACMURCHY,

Secretary.

PROCEEDINGS OF THE PUBLIC SCHOOL SECTION.

August 11th, 1875.

First Session was held this morning at 9 o'clock. In the absence of the Chairman, Mr. R. McQueen, of Beverley, on motion, was requested to fill the position, and Mr. Dickenson as Secretary.

The meeting was opened in the usual form by the Chairman.

Minutes read and approved.

The first question for discussion was "The present programme of Studies for Public Schools," introduced by Mr. J. Campbell.

The discussion was participated in by Messrs. Irwin, Dickenson, Beattie, Johnson, Boyle, Moran, Rennie, Coates and McLean.

Moved by Mr. John Campbell, seconded by Mr. Robert Coates,

That in the opinion of this Section of the Association, the Council of Public Instruction would act in the interest of education in this Province by curtailing the subjects taught in the Public Schools, and also improving and modifying the Limit Table, so as to become practical in all classes or grades of schools in cities, towns, and rural districts.

Moved in amendment by H. Dickenson, seconded by Mr. Boyle,

That we think the Council of Public Instruction should prescribe the subject of study and the amount of work to be done in each, but that a little discretion be allowed teachers, especially of rural schools, as regards the subjects to be taken up, also in the amount of time to be devoted to each subject in each session, according to the varying circumstances of the schools.

Moved by Mr. McAllister, seconded by Mr. Moran,

That the subjects of Chemistry and Christian Morals be left out of the Fourth Class Programme, and the time be given to Book-keeping, Grammar and Spelling. That the subjects of Civil Government and Agriculture be left out of the Fifth Class Programme, and the time be given to Spelling, Composition and Grammar.

The discussion on the above resolutions lasted two and a half hours, and culminated in the appointment of Messrs. McAllister, Dickenson, Campbell, Johnston, Moran, Boyle and Irwin as a Committee to consider the programme, and report needed changes at to-morrow's session.

THURSDAY, *August 12th*, 1875.

The Second Session of the Public School Section was held this morning. Mr. McQueen in the chair.

The Secretary, Mr. Dickenson, opened the meeting by reading a portion of Scripture and prayer.

The Report of the Committee on the Public School Programme was handed in by Mr. McAllister.

The Report reads as follows :

That in the opinion of this Association it is desirable (1) that separate Limit Tables, as regards the division of time amongst the different subjects be prepared for graded and ungraded schools. (2.) That the subjects of Agricultural Chemistry and Christian Morals be removed from the Limit Table, and that the time there given be allotted to Spelling, Grammar, Book-keeping and Reading, and (3) that uniform Limit Table be issued for the use of Inspectors, Teachers, and all School Officials.

On motion the Report of the Committee was unanimously carried.

Moved by Mr. Moran, seconded by Mr. McLean,

That in the opinion of this Association the time has arrived at which the judicial diminution of third class certificates should be commenced, and that therefore it is desirable that no third class certificates should be renewed, and no monitors' certificates granted unless a Board of Trustees is desirous of employing the services of the candidate for such certificate, and not then unless the Inspector of Public Schools recommend such candidate, stating in writing to the Board of Examiners his reasons.—Carried.

Moved by Mr. W. B. Harvey, seconded by Mr. D. Johnson,

That this Section desire to re-affirm the principles laid down last year, viz., that all Provincial certificates be issued only by a Provincial Board of Examiners.—Carried.

The election of officers was proceeded with, and the result was as follows :

Mr. McQueen, Chairman.

“ H. Dickenson, of Newmarket, Secretary.

<i>Executive</i>	{	Mr. Moran, of Stratford.
<i>Committee</i>		“ McDonald, of Toronto.
		“ Dearness, of London.

Moved by Mr. H. Dickenson, seconded by Mr. D. Johnson, and

Resolved, that in the opinion of this Section, the Council of Public Instruction be requested to take such steps and to secure the appointment of first class teachers who are or have been engaged in teaching within five years to fill the vacancies occurring on the County Boards of Examiners.—Carried.

Moved by Mr. S. McAllister, seconded by Mr. Harvey,

That in the interest of Public School education in this Province, and in justice to intending candidates for examination as teachers, it is highly desirable that the subjects of examination for each ensuing year, together with the names of the books to be used in their preparation, and any other necessary or useful information, should be published in the *Journal of Education* as soon after the Annual Examination as possible.—Carried.

Moved by Mr. Dickenson, seconded by Mr. R. Alexander,

That in our opinion, in order to diminish the number of third class teachers throughout the Province, it is desirable that the Government grant the sum of — dollars to Boards of Trustees engaging second class and first class certificates.

As the time for adjournment had come, this motion was withdrawn.

H. DICKENSON,
Secretary.

INSPECTORS' MEETING ROOM,
Educational Department,
11th August, 1875.

A. McCallum, A.M., in the chair, G. D. Platt, Secretary *pro tem.*

A conversation ensued on the cancelling of Second-Class Certificates granted by the old County Boards.

Mr. Glashan was invited to introduce the subject of a suitable candidate to represent the Inspectors in the Council of Public Instruction, in the place of Mr. Wood, resigned.

Moved by J. R. Miller, seconded by Dr. Kelly,

That David Mills, Esq., M.P., be requested to act as the Inspectors' Representative in the Council of Public Instruction for the next two years.—Carried unanimously.

Moved by J. R. Miller, seconded by J. J. Tilley,

That the thanks of the Inspectors be tendered to the Hon. S. C. Wood, for the able manner in which he has represented us in the Council of Public Instruction during the past year.—Carried.

Moved by W. Mackintosh, seconded by E. Scarlett, that in the opinion of this Section, the Annual Examination for Teachers' Certificates should be commenced on or about the first of July, and that for this reason, among others, the Public Schools should close on the 30th June.—Carried.

Moved by Mr. Hughes, seconded by W. Mackintosh,

That in the opinion of the Inspectors' Section, it would be more satisfactory to the country to have six weeks' vacation at Midsummer, and to do away with the Easter vacation altogether, and also the week at present allowed after New Year's Day.—Carried.

Moved by J. R. Miller, seconded by J. J. Tilley,

That the resolution of last year, respecting the standard to be adopted in pass work in Arithmetic and Grammar be re-affirmed, and that in addition thereto, the standard required in Spelling be the same as the other subjects named, the marking to be in accordance with suggestions from the Central Board at last examination.—Lost.

Moved by James Hughes, seconded by W. Mackintosh,

That in the opinion of this Section, the Council of Public Instruction should pass a Regulation giving Local Boards the power to exact as high as fifty per cent of the number of marks in each of the subjects of Arithmetic and Grammar in examination for Third Class Certificates.—Carried.

Moved by Mr. McKinnon, seconded by Mr. Johnston,

That Messrs. Dearness, Platt, and Mackintosh, be a Committee to draw up a resolution regarding Honor Third Class Certificates, and report to-morrow.—Carried.

Moved by Mr. McKinnon, seconded by Mr. Platt,

That in order to be eligible for examination, the Candidate, whether male or female, should be at least eighteen years of age.—Carried.

Moved by Mr. Macintosh, seconded by Mr. Scarlett,

That a Committee, consisting of Messrs. Scarlett, Tilley, Hughes, Miller, and the mover, be appointed to consider the question of providing training for Third Class Teachers, and report to-morrow.—Carried.

Moved by Mr. Scarlett, and seconded by Mr. Hughes,

That in the opinion of this Section, the Inspector should have the power to exclude Third Class Teachers from any school in which the scholars are advanced beyond the programme for Third Class Certificates.—Carried.

Moved by Mr. Dearness, seconded by Mr. Platt,

That a Committee be appointed, consisting of Messrs. Miller, Macallum, Hughes, Smith, and the mover and seconder, to make recommendations regarding School Registers.—Carried.

The Section adjourned to 9 a.m. Thursday.

THURSDAY, 9 a.m.

On motion, the Committee appointed to consider the propriety of instituting Honor Third Class Certificates was discharged.

Moved by J. Dearness, seconded by G. D. Platt,

That there be two grades of Third Class Certificates, known as A and B. That in addition to the subjects at present required, there be added Algebra (to end of Simple Equations), Mensuration (elementary), Euclid, Book I. That Grade B be given on 50 per cent. of the present subjects, and Grade A 50 per cent. of total marks, and also of each of the test subjects.—Lost.

Mr. Miller reported progress on the part of the Committee on School Registers, and asked leave to sit again; also that Mr. Little's name be added to the Committee.—Granted.

Moved by Mr. Hughes, seconded by Mr. Johnston,

That in the opinion of this Section, it would be advisable to hold the Entrance Examinations for admission to High Schools on the Tuesday and Wednesday of the last week of the High School terms in June and December.—Carried.

A conversation ensued on the subject of Reports, Methods of Inspection, &c.

The following were elected officers of the Inspectors' Section for the ensuing year:—

James Hughes, Esq., *Chairman*.

G. D. Platt, B.A., *Secretary*.

Executive Committee:—Messrs. J. H. Smith, W. McIntosh, E. Scarlett, R. Alexander, and the Chairman of the Section, ex-officio.

Moved by Mr. Mackintosh, seconded by Mr. Hodgson, that in the opinion of this Section, the next meeting of the Association should be held in the City of Ottawa.—Carried.

It was moved and seconded,

That the Chairman and Secretary of the Section be appointed to furnish the Inspectors' Representative in the Council of Public Instruction, and also the Chief Superintendent of Education with copies of such proceedings of this Section as relate to school legislation.—Carried.

Meeting adjourned.

JOHN J. TILLEY,
Chairman pro tem

G. D. PLATT,
Secretary.

HIGH SCHOOL MASTERS' ROOM,
Educational Department,
August 11th, 1875.

The High School Section met this morning at 9 o'clock.

Mr. Strang, who had acted as Secretary last year, having called the meeting to order, it was

Moved by Mr. McMurchy, seconded by Mr. Anderson,

That Mr. Seath be Chairman of the Section.—Carried.

Mr. Seath having taken the Chair, it was moved and seconded,

That Mr. Strang act as Secretary of the Section.—Carried.

The question of the best time of holding the entrance examination to the High Schools was taken up.

After considerable discussion it was

Moved by Mr. McMurchy, seconded by Dr. Crowle,

That the High School Section of the Ontario Teachers' Association would respectfully urge the Council of Public Instruction to close the High Schools for the last two days of the school half year, and appoint the Entrance and Intermediate Examinations to take place on those days.—Carried unanimously.

A discussion then followed on the propriety of lowering the Entrance Examination to High Schools for boys intending to become *bona fide* classical pupils. It was finally

Moved by Mr. Strang, seconded by Mr. Connor,

That in the opinion of this Section the Entrance Examination to High Schools for boys intending to become *bona fide* classical pupils might safely and advantageously be lowered considerably.—Lost.

After some informal discussion on other matters, the Section, on motion made and seconded, adjourned to meet again in the same place on the following morning.

August 12th, 1875.

The Section met this morning at the usual time and place.

The Minutes of last meeting were read and confirmed.

Mr. Douglass brought up the question of uniformity of Entrance Examinations to the different colleges and professions, and suggested

that as the Committee appointed last year to consider the matter were not prepared to report, they should be re-appointed.

Mr. Anderson, one of the members of the Committee, reported informally that considerable progress had been made towards securing the desired end.

Mr. MacMurchy mentioned several changes which had been made in the subjects for Matriculation in Medicine owing to the attention of the Medical Council having been directed to the matter.

It was finally agreed that the Chairman should nominate a Committee, and he accordingly nominated Messrs. McMurchy and Anderson.

The Section then proceeded to discuss the system of payment by results, proposed by the High School Inspectors and approved by the Council.

Moved by Mr. Dawson, seconded by Mr. Douglass,

That, while the members of the High School Section are of the opinion that it is in the interests of education that the distribution of a portion of the Legislative Grant should be determined by the results of a personal examination of the Schools by the High School Inspectors, on the basis indicated in their report of April, 1875, to the Chief Superintendent (Section III, sub section 3), they would respectfully urge upon the Council the advisability of instructing the Inspectors to submit a copy of their Reports to each High School or Collegiate Institute Board, and to each Head Master, on the condition of the School under their charge, and on such changes as would in their opinion conduce to its improvement.—Carried.

Moved by Mr. Houghton, seconded by Dr. Crowle,

That in the opinion of this Section it is desirable that the High School Inspectors should notify Principals of High Schools or Collegiate Institutes, a week previously, of their intended visit. Carried *nem. con.*

Moved by Mr. Dawson, seconded by Rev. Mr. Grant,

That in the opinion of this Section all pupils who pass the examination for Second Class Provincial Certificates from any High School or Collegiate Institute, should be reckoned as having passed the Intermediate Examinations, and that girls competing at the Intermediate Examination should not be required to take Euclid.—Carried unanimously.

Moved by Mr. Connor, seconded by Mr. Switzer,

That the Council of Public Instruction be respectfully requested to reconsider their decision on the question of recognizing the passing

of a matriculation examination of a University as equivalent to passing the intermediate examination.—Lost.

Moved by Mr. Strang, seconded by Rev. Mr. Grant,

That in the opinion of this Section it is inadvisable to have an intermediate examination until the new programme has been for at least six months in the hands of the teachers.—Carried.

Moved by Mr. Dawson, seconded by Mr. Douglass,

That the High School Committee for the ensuing year consist of Messrs. Seath, Strang, McMurchy, Thorburn and McIntosh.—Carried.

The hour for closing having now arrived, it was moved and seconded,

That the Section do now adjourn.—Carried.

HUGH J. STRANG,

Secretary H. S. M. Section.

PAPERS READ

BEFORE THE ONTARIO ASSOCIATION

FOR THE ADVANCEMENT OF EDUCATION.

PRESIDENT'S ADDRESS.

The President, on taking the Chair at the evening session, proceeded to deliver his Annual Address. He said he could not help thinking that these meetings, whether central or local, were of great use to the profession. Education was an experimental science; the teachers were making the experiments; in the local and central associations they came together and heard the results of those experiments, and so forwarded the science which they were engaged in applying. It was also useful for them, secluded as they were for the greater part in the rural districts, to meet on these occasions and interchange ideas. On the last occasion of their meeting the interest was somewhat taken away by the excitement of an election which was then pending, and in which he was one of the candidates. He thanked those who supported him at that time, declared his intention of performing his duties equally to all, and announced that he had had no hand in any imputations which were then made on those who opposed him, the first sign of a man of honour being to be careful of the honour of others. He had endeavoured to supply his deficient acquaintance with the educational profession in Canada, by visiting as far as he could the meetings of the local associations, but it was difficult for him to visit them all, especially those in the more distant parts of the Province. This had been the first year of a re-organized Council. As one of the elected members, it was not for him to say whether the elective element had worked well or ill. The work had not fallen short in quantity—whether it had in point of quality, he left others to judge. There had been a disposition on the part of the Council to make themselves acquainted with the views of the teachers generally, as, for instance, in regard to the revision of the text-books and the new scheme for the High Schools. There was one change which many still desired, that was that the meetings should be public, and that reporters should be admitted. He believed he could speak upon that question with perfect impartiality, though some charitable people seemed to think that he had some motive in excluding reporters and keeping the meetings private. He could have no such motive. This was his last year of office, and besides, if he did not choose to speak before reporters, one had always the refuge of being silent. But he thought the question required very considerable delibera-

tion before they proceeded to take the step which was proposed. This Council was not administering public moneys. They had no special reason for keeping a very sharp or vigilant eye upon it. What it was wanted to do was to transact current business, and to make regulations which required, for the most part, minute consideration rather than great speeches like those which were made in public. They wanted it, he considered, not to talk well but to work well. There was no constitutional reason why it should debate publicly, or why reporters should be admitted. There were many Boards in England doing the same kind of work, though not on the same subject exactly, to which reporters were not admitted. If there was anything at all analogous in England to the Council of Public Instruction, it was the Committee of Council on Education, which did not sit publicly and was not reported. He could not help thinking that if reporters were admitted and the debates were published they would have a great deal of talk, and that was a considerable evil when they remembered that the Council was not a body of residents meeting from day to day, or through a long session, but of members scattered throughout the country, who were brought from their other avocations for a limited time, and from whom, therefore, they desired to get the largest possible amount of work and the least possible amount of needless talk while they were here. Again, it was very difficult to deliberate really when their words were being taken down by reporters. That was notoriously the case in great legislative assemblies. If they asked any member of the English House of Commons whether a speech in that body had ever turned a vote, he would say, "Yes, on one occasion. That was when Lord Hotham moved that the Master of the Rolls should be disqualified like the other judges from sitting in the House, and Lord Macaulay made a speech in opposition which turned the vote, Lord Hotham himself saying that if he had not moved the resolution he would have voted against it." That was one exception, but the rule was that people came with their minds already made up and made speeches in order to justify to the nation the vote they were going to give. If they wanted to deliberate on some difficult private matter with half-a-dozen friends, would they be likely to deliberate freely, or to change their opinions if there were needed to change them in order to arrive at the proper decision, if a reporter were sitting by to publish every word afterwards? That was the way with the Council of Public Instruction. Members coming from the country could not be well informed of the business beforehand; they had to learn the facts when they arrived, and they might express opinions which in the course of discussion they might find it right to change, but it was very difficult to change an opinion after it had been taken down. His opinion was that if reporters were present the debates of the Council would be of much less practical value. There was another danger. He hoped that in time public education and other beneficent institutions would improve their politics; but now they wanted to confine them to their own sphere. They did not want them in their soup or in their education. He believed that if they had reporters taking down the debates, and the newspapers commenting on them afterwards, it would be very difficult to keep out politics. He did not say this on mere speculation. Not long ago a question was raised about a debate in the

Board on the subject of the Depository, and if they remembered the comments of the two leading newspapers on that occasion, they would recollect that they both fixed upon the objects of their political aversion for attack. At present the Board was not political. Politics were excluded from it. It was governed entirely—whether it went right or wrong—by the interests of education. That, he thought, in this political world was a valuable characteristic, and one which he should not like needlessly to endanger. He was as great a friend of publicity as could be, and if there was any ground for supposing that the Board did not deliberate honestly, or played tricks with the public, by all means let the doors be thrown open and the reporters admitted, but the object was not that it should talk well, but that it should work well, and reporting would be a great impediment to work.

The most important work the Council had done during the year had been the revision of text-books. They were all aware that in that as in every department of this great and complex system, change ought to be very cautious, but the text-books must be kept up to the level of the age, and the Council could not be responsible for anything else. He knew there had been a great desire for a new or revised geography, and that had been put in hand under good auspices. Then the grammar was considered to need a change. That change had been made, and a grammar introduced, the best the Council could select, although he feared it might at first present a rather novel arrangement and nomenclature. It was very difficult to find a good English grammar. Most grammars had been written by people who had studied the inflected languages and thought English was inflected, though, unfortunately, they knew that it was not. People who had studied Greek and Latin, especially Greek, looked for their forms everywhere. The Greek was perfectly homogeneous, almost perfectly inflected, and in forms and modes of thought far superior to any modern language. English was very different, being exceedingly heterogeneous and not inflected. Another class of text-books taken up for revision was the history books. They had found no really good history of Canada for the use of schools, and had had to invite the learned men of the Province to turn their attention to it, but he doubted if anything very valuable in the way of a text-book would be produced, in consequence of the disconnected character of our past history. With regard to English history, would there was some one who, with the knowledge of the present day united the talent of Goldsmith, and would give us such a narrative as his histories were. All historical writing was now affected by the question whether history was a science, and to be treated as one in the same way as the physical sciences. Mr Buckle thought it was, but he was not satisfied that it was so, because he had not yet found any explanation of the phenomena of conscience and moral responsibility, which seemed to exclude free will, and if they admitted free will there was something in the phenomena of human action, of which history was made up, which was different from the phenomena of the scientific world, and repelled the scientific treatment applicable to it. Still, no doubt scientific habits and method had told a good deal upon the treatment of history, so that if it had not become more scientific it had at least become more philosophical, less

what might be termed the "drum and trumpet history," and more the history of opinions and institutions. This affected the larger histories more than the text-books, but it affected all to a certain extent. There was, however, one element in history which was not affected by any question as to its being a science—that was the ethical part, the presentation of human character in great persons and great events, and that was the part most suited to children, and most required in any text-book adopted by the Council.

Another class of books about which he had heard a good deal said in the local associations, and which must probably come on some day for inspection, if not for revision, was the reading books. His own inspection of them led him to sympathise with those who thought a change should be made, but before acting they must settle some principle on which they should act. Was the object to be purely literary, simply to teach reading, or to convey specific information at the same time? Although the two objects might not be absolutely incompatible, yet they would frame a very different set of books if they went on one principle or the other. They must be determined again by another question as to the "programme"—whether some subjects now upon it should be left there or not. If the scientific or philosophical subjects now introduced in the programme were removed, there would be an additional reason to introduce them into the reading-books, and so convey information no longer given in any other way. Another point to which the attention of the Council was incidentally turned, was the relations between the text-books and religious teaching, and the conclusion to which the Council came in substance was, that it would desire all text-books, and books emanating from it, to be pervaded by the sentiment of a Christian community, but it would not introduce into them anything in the way of dogma—anything of a denominational or sectarian kind. He considered the latter provision to be sound and valuable. Some said, not without plausibility—"The Roman Catholics have their Separate Schools; the rest are Protestants; and we may introduce into them all doctrines in which all Protestants agree, or to which none strongly object." That, in the first place, was stereotyping a system which, after all, he hoped was merely a concession to a temporary need. He thought our Legislature acted wisely in instituting Separate Schools. He thought they must look facts in the face, and must consider how difficult it would have been to get the Roman Catholic portion of their population to co-operate in any sort of national system unless they had made that concession. He did not say the propriety would be so clear if the strongly aggressive spirit lately shown by the Ultramontane party were to spread to this country. He thought then the relations of the Roman Catholics towards the Government and society in general would be open to question. As things had been, however, he thought it was wise, but he did not want to stereotype it—he did not want to write over all the public schools, "This is a school which a Roman Catholic cannot enter." The address which he made to them last year had called down some sharp criticisms from ecclesiastical quarters, to which he had thought it better not to reply. They had come from his excellent friend the Archbishop of Toronto, his excellent friend the Provost of Trinity College, and from a

High Church clergyman of the Church of England, who wrote over his initials in the *Mail*. They would see that all these criticisms came virtually from the same quarter, but they would bear him witness that he spoke as strongly as it was possible to speak on the importance of religious education, and that he said he looked forward earnestly to the day when not only would education be religious, but they would be able to reintroduce religion into the teaching of their public schools, instead of the present system of secular education in the schools and religious education at home and in the Sunday school, which was the result of a time of religious perplexity and division, when it was impossible to get people to be all taught the same creed. But what these gentlemen all wanted was not religious but clerical education—education under the control of the clergy. The Catholic Archbishop had more than once poured balms upon his head from the height of his pulpit, but in the Council they met on the most friendly terms and in the most friendly manner. The Provost of Trinity College commenced mildly, but he warmed as he went on, and the High Church rector was, he might say, personal, but he ascribed that only to his piety. With regard to the Archbishop's criticisms, if he thought it quite certain that clerical control over education was really conducive to the interests of popular education, he would only like him to look at Spain and her colonies, Portugal, Brittany, Italy, the Roman Catholic parts of Belgium, and the other countries where clerical education had been most complete, and tell him honestly what had been the result. The Provost's principal objection was that he had underrated the activity of the Established Church of England in regard to popular education. Let him distinguish the Establishment, which was a political institution, from the Church. The Church, when it became political, and political power was placed in its hands, seemed to him to suffer by what it thought to be an accession of power. The Provost's statement that the Church of England had taken up the matter of popular education before the close of the war against revolutionary France was literally correct, but that war divided itself into two parts. The first was the struggle against revolutionary France and the French Republic, and then the Tory or High Church reaction in England was very high indeed. Afterwards it was a struggle against Napoleon, and then the reaction became less violent. After the struggle ceased, the liberal or progressive movement began again, and he contended that it brought with it popular education. In support of his statement he quoted a passage from Lord Russell's "Recollections and Suggestions." The new High School scheme was likely, he thought, to fulfil its purpose.

They had learnt from the newspapers that a question had arisen about the Depository. A Committee was appointed to enquire into the Depository, and to consider its relations to the book trade and its general utility and present circumstances. He consented to serve on the Committee while doubting whether the Council had, under the Act defining its powers, power to carry through that enquiry effectually. The question was ultimately raised, and he could not say positively that it had power, after a satisfactory enquiry, to make a complete report, and so, instead of voting for the reception of that report, he was very glad to

vote for a reference to the Government suggesting that, as the institution was one of an exceptional kind, and the trade which it affected felt and expressed itself aggrieved at its interference, it was desirable for the Government from time to time to enquire into it in order to see that it fulfilled the purposes of its institution and did not interfere with any established trade. The report contained an explanation by the Office of the uses of the Depository, and a defence of it as an institution. He did not mean to say that there was not a great deal in that defence. His mind was entirely free from prejudice on the question, but he thought the institution should be subjected to occasional enquiry. It was true that Government built ships and manufactured arms in its own yard, because they were absolutely necessary, and private traders could not be relied on to supply them when wanted, or of the exact description required, but books were sure to be provided by the trade. The book trade was the natural organ for the production and diffusion of literature. Its interests were not more selfish than those of any other trade, and they should be careful how they carried on an institution like the Depository without periodical enquiry. He had no doubt that it served an excellent purpose in the pioneer state of our institutions, but now the book trade had developed and circumstances had changed. He looked with respect on the Depository and every part of the great educational policy which had been established in this Province, and would not lay rash hands upon it.

During his visit to the local associations several questions had come up. One was whether certain scientific and philosophical subjects had not better be removed from the programme. The real question was, could these subjects be effectively taught or not. He should say that some of them could not be taught in the rural schools. He was of opinion that the staple should be reading, writing, arithmetic, grammar, and geography. Let these be thoroughly taught, especially arithmetic, which, independent of its obvious uses, was the best mental training that our children received. He had no doubt that the Scotch owed a great portion of their remarkable success in life to the very thorough training they underwent in arithmetic in Scotch schools. A great deal had been said about the economical value of education in the increased value it gave to labour; but they must remember that, after all, the root of industry was hard work, and while they made labour more skilled and intelligent, there might be a danger of making manual labour distasteful. This result had already been seen in the United States. The superiority of English workmen arose not from anything learned in the school, but from the long-trained habit of conscientious labour.

Referring to the subject of rewards and punishments, he said he was inclined to sympathise with many people who were opposed to the prize system. He thought that to excite ambition and envy in the minds of children was not conducive to their happiness, and, after all, the great thing they desired to form was not intellect, but character. With regard to punishments, some thought that corporal punishment in schools could be done away with altogether. But if the statements which had been published as to cases in which it had been successfully abolished were true, they only showed the persons that had succeeded to have possessed won-

derful powers of moral command, such as were not given to one teacher in a hundred. Among ordinary children and ordinary teachers cases must arise when corporal punishment should be used. But, of course, the greatest economy of punishment was the greatest proof of the teacher's powers of moral command. The punishment should always be administered in cool blood, and if possible not at the time; it should never be inflicted for stupidity or nervousness, but only for wilful disobedience, including obstinate idleness. He had sometimes thought that the political evils of which we complained on this continent had resulted from the loss of parental authority, amounting in some cases to positive domestic anarchy.

The irregularity of attendance of which complaint had been made was due in some measure to our climate, the shortness of the summer often making it necessary for the children to stay at home to assist in getting in the harvest, and the severity of the winter, rendering it at times impossible to send them long distances. The frequent change of teachers would, he was afraid, only be rectified by higher pay being given. A question had been raised whether the Council of Public Instruction had not better be improved out of existence, and a Minister of Education substituted for it. He should say yes, at once, on two conditions. The first was that they could find a Minister of Education. He had asked one or two persons of some eminence whether they did not think the change had better be made. The answer was, "Where will you find the man?" It was rather a melancholy subject of contemplation, and seemed to show that the United States was not the only country where the best men did not go into Parliament. Another reason against the change was that they wished to keep education out of party politics. In England, the Vice-President of the Council was practically the Minister of Education as Chairman of the Committee of Council on Education, but though he was a party man, and went in and out like the other Ministers, they had somehow the art in the old country of keeping education tolerably clear of politics. He was not so sanguine of doing it here, but if he were sure of these two conditions being satisfied, he did say the right thing certainly was to have a Minister of Education.

The President concluded his speech by thanking them for the honour they had done him by electing him.

COMPULSORY EDUCATION.

BY ARCHIBALD MACALLUM, M.A.

MR. CHAIRMAN AND FELLOW-TEACHERS,—

The subject to be discussed this afternoon is Compulsory Education. Education is that preparation in early life which will enable a person to prosecute successfully the business of life in after years.

Compulsory Education secures to each individual "that his faculties and capabilities shall be educated, brought out so much that he may

know what there is to be done and learned in this world, in which he must needs live, and what of that he himself must learn and do."

The first principle involved in Compulsory Education is that it must be national; the State must educate the whole people in everything except religion; the property of all must pay for the education of all, from the lowest primary or kindergarten school to the highest seat of learning—the university of the nation. England, until recently, had not a national system, and, by their own estimate, a few years ago there were in England and Wales eight million men and women who could neither read nor write.

The legislative provisions for the free and liberal education of every youth in Ontario are amply sufficient. The State, in mere self-defence, should insist on those rich provisions of the law being carefully carried into effect. Society has suffered so cruelly from ignorance, that its riddance is a matter of necessity, and by the universal diffusion of knowledge alone can ignorance and crime be banished from our midst; in no other way can the best interests of society be conserved and improved than by this one remedy—the compulsory enforcement of this great boon—the right of every Canadian child to receive that education that will make him a good, loyal subject, prepared to serve his country in the various social functions which he may be called on to fill during his life; and prepare him, through grace, for the life to come. This is the end of education.

Compulsory education is the necessary sequence of free public schools, and may be regarded as the crowning act in the great educational drama we have been permitted to witness during the past thirty years. It may be said the ballot has been placed in the hands of every man, and in no other way can this great right be exercised to the advantage of all concerned than by the universal diffusion of knowledge. Our form of government is the best in the world, but without intelligent voters it can neither be continued pure nor improved to meet the necessities of the coming time. Three great privileges we enjoy: a free State, a free Church, and a free School. We owe to posterity that the people should be sufficiently educated to hand down not only unimpaired but augmented, the blessings now secured to all by our excellent system of instruction, which embraces the Public Schools, the High Schools and Collegiate Institutes, and the National University. However important other institutions may be, the public schools alone affect the standing of the masses; and so beneficial are the influences of education on the masses, that "the material prosperity, intellectual and moral development, respect for law, and obedience to it in any state, may be relatively measured and calculated by the condition of the free public schools."

The importance of this great cause may be perceived from the great amount of property invested in its interests by the various Provinces constituting our Dominion, as well as in other educating countries. In the United States (140,000,000) one hundred and forty million acres of public land have been set aside for educational purposes; the children of school age number (14,500,000) over fourteen and a half millions; they expend (\$95,000,000) ninety-five million dollars annually, estimated to be equal to one-third of one per cent. of the value of the real and personal

property in the whole country; and (221,000) two hundred and twenty-one thousand teachers constitute their army for the extirpation of ignorance, bigotry, superstition, and crime. Every child in the land is welcome to participate freely in the blessings of education, while in places—Boston, New York, Ohio, &c.—the young are compelled to receive that early training which will make them intelligent, useful, and law-abiding citizens. Soon, we trust, this compulsory law will everywhere obtain, and the effect of it will, no doubt, be glorious.

In Ontario for 1873, the latest date at hand, there were (504,869) five hundred and four thousand eight hundred and sixty-nine children between the ages of five and sixteen years, of whom 460,984 had attended school more or less, and of all ages 480,679 had been pursuing mental culture in some one or other of our educational institutions. The number of public school houses reported was 4,662; total educational institutions, 5,124. The number of public school teachers was 5,642, whose salary amounted to \$1,520,124; while the total expenditure in connection with our public schools amounted to the handsome figure of \$2,604,526, and for all educational purposes reported, \$3,258,125. The value of all school property I regret to be unable to give, but for our population, age, and abilities, I believe we compare favorably with any other State in the world. Compared with these interests, any other—railroad, manufacturing—important though they are to material progress, are yet small in comparison to the education of our half-million of youth.

The following are among some of the benefits that would result from the adoption of this great measure:—

I. COMPULSORY EDUCATION PREVENTS PAUPERISM.

In the States of Pennsylvania, Ohio, and Illinois, statistics bearing on this point have for some time been kept, and it is found that, of illiterate persons, *one in ten* is a pauper, while of the rest of the population only one in *three hundred* is a beggar. Thus it appears that persons allowed to grow up in ignorance produce *thirty* times the number of paupers that an educated community would be troubled with. The statistics of England, Ireland, and Scotland, not less than other countries of Europe, show that (*ceteris paribus*) poverty and paupers are in the inverse ratio of the condition of education among the masses: as "education increases, pauperism decreases, and as education decreases, pauperism increases."

II. COMPULSORY EDUCATION DIMINISHES CRIME.

By this means alone can the golden age so exquisitely referred to by Pope, be inaugurated and perpetuated:—

All crimes shall cease, and ancient fraud shall fail;
 Returning justice lift aloft her scale;
 Peace o'er the world her olive wand extend,
 And white-robed innocence from heaven descend.

A greater than Pope declared in prophecy, two thousand six hundred years ago, that "they shall beat their swords into plough-shares, and their spears into pruning-hooks; nation shall not lift up sword against nation, neither shall they learn war any more." These sentiments were rendered into exquisite verse by Michael Bruce, one of the minor Scotch poets, and also a teacher, who died at the early age of twenty-one, in 1767:

No strife shall rage, nor hostile feuds
 Disturb those peaceful years ;
 To ploughshares men shall beat their swords,
 To pruning-hooks their spears.
 No longer hosts encountering hosts
 Shall crowds of slain deplore :
 They hang the trumpet in the hall,
 And study war no more.

It will be by education that Victor Hugo's bright dreams shall be realized. "This security of the future will be superb, and discoveries will succeed battles; nations will conquer no more. They will raise themselves and enlighten one another. People will no longer be warriors; they will be workers. They will find, construct, and invent. To exterminate will no longer be glory, but murder will be replaced by creation. Civilization will be composed of the study of the true and of the production of the beautiful. *Chefs d'œuvres* will be incidents. People will be more moved by an *Iliad* than by an *Austerlitz*." I regret my inability to give much more from this writer, as he seems to me to foreshadow the happy times in reserve for the coming generations by means of Compulsory Education.

Of the prisoners committed to jail in Ontario during the year 1870, 1,722 or 27 per cent. could neither read nor write, and 427 of them were under sixteen years of age. The Commissioner of Education for New York avers that 85 per cent. of the crimes in that State is committed by the uneducated. Eighty per cent. of the crimes in New England in the same year was committed by parties whose education had been wholly neglected or nearly so. Only seven per cent. of New England's population over ten years of age can neither read nor write; yet 80 per cent. of the crime in these States was committed by this small minority: in other words, an uneducated person commits fifty-six times as many crimes as one with education. In the whole United States an ignorant person commits ten times the number of crimes an educated one does. Of 11,420 juvenile offenders committed to jail in one year in England, only 196, or less than two per cent. could read and write well. The statistics of our own Penitentiary but too surely corroborate these lamentable facts. From the following table it will be perceived that out of 130,000 persons committed to prison in England and Wales during the year 1867, only 4,137—that is, *one in thirty-one*—could read and write well. "In fact," as it has been well said, "our criminal population are mere savages, and most of their crimes are but injudicious and desperate attempts to live as savages in the midst and at the expense of a civilized community."

Degree of instruction of persons committed to the different County, Borough, and Liberty Prisons in England and Wales:—

JUDICIAL STATISTICS, 1867.

	Males.	Females.	
Neither read nor write.....	32,724	13,788	} 126,213
Read, or read and write imperfectly.....	59,684	20,067	
Read and write well.....	3,495	430	} 4,137
Superior education	195	17	
Instruction not ascertained.....	96,098	34,252	130,350
	807	242	1,048
Totals	96,895	34,493	131,398

In France, from 1867 to 1869, one half the inhabitants could neither read nor write, and this one-half furnished 95 per cent. of the prisoners arrested for crime, and 87 per cent. of those convicted. In other words, an ignorant person, on an average, committed ten times the number of crimes that one not ignorant did.

In the Kingdom of Bavaria this question was thoroughly examined in 1870, and it will be noticed that as school-houses increase, crime, with its parent, ignorance, withdraws to more congenial surroundings. In Lower Bavaria there were 10 churches and $4\frac{1}{2}$ school-houses to every 1,000 buildings and 100,000 inhabitants, and there were 887 crimes committed. In the Lower Palatinate the ratio was 11 churches, 6 school-houses, and 690 crimes. In Upper Bavaria the churches numbered 15 and the school-houses $5\frac{1}{2}$, while the crimes numbered 667. In Upper Franconia the ratio was 5 churches, 7 school-houses, and 444 crimes; while in the Palatinate there were 4 churches, 11 school-houses, and 425 crimes—less than one-half compared with Lower Bavaria, in which the conditions of churches and school-houses were reversed. And finally, in Lower Franconia the ratio was 5 churches, 10 school-houses, and 384 crimes. Tabulated for the purposes of comparison, these statements are as follows:

	Per 1,000 Buildings.		Per 100,000 Souls.
	Churches.	Schools.	Crimes.
Lower Bavaria.	10	$4\frac{1}{2}$	870
Lower Palatinate	11	6	690
Upper Bavaria	15	$5\frac{1}{2}$	667
Upper Franconia.....	5	7	444
The Palatinate	4	11	425
Lower Franconia.....	5	10	384

In the report of Asylums, 1870-1, the following statement occurs:—
 "About 25 per cent. could neither read nor write, while as many as 4,046, or 61.18 per cent., were known to be intemperate in their habits." Under this head are placed all such infractions of Nature's laws as result in deafness, dumbness, blindness, lunacy, idiocy, insanity, &c. Ninety-nine cases in a hundred of these and other ailments too numerous to mention might be avoided by strict attention to the laws God has established for our guidance and control. "We are verily guilty concerning our brother," said the sons of Jacob, "when he besought us and we would not hear." A hundred times more guilty are the teachers—among whom are placed all who have an opportunity to teach—of the present day, who, either as blind leaders of the blind, or, worse still, having light on the causes of these calamities, put it under a bushel, and so allow the darkness to continue. In a very important sense, "ye are the light of the world." Let your light so shine that men, in the observance of physiological as well as other laws, may glorify your Father which is in heaven—the maker and upholder of these laws.

III. COMPULSORY EDUCATION WOULD EFFECT A GREAT SAVING IN THE EXPENSES OF OUR CIVIL GOVERNMENT.

From Dr. Ryerson's Report for 1870 we learn that the average cost of each pupil in the public schools for Ontario for that year was \$3.87;

from Mr. Langmuir's Report we find that the cost of each prisoner in our common jails was, for the same year, \$16.03, without including such items as the salaries of our judges, &c., that might justly be added. Assuredly school-houses are cheaper than jails, and teachers than officers of justice.

In the city of New York, for the year 1872, there were (230,000) two hundred and thirty thousand pupils in the public schools; (3,000) three thousand teachers and school officers were employed, at a cost of (\$3,300,000) three million three hundred thousand dollars, to instruct and educate these children. Yet it costs that great city more, according to Dexter A. Hawkins, a competent authority on this subject, to support police and police courts in restraining and punishing a few thousand criminals, nearly all of whom became such from want of education, than to educate their 230,000 school-going population.

IV. COMPULSORY EDUCATION WOULD INCREASE THE BLESSINGS OF LIFE.

The tendency of education is to increase the happiness of mankind; if education were general and compulsory, the greatest good to the greatest number would be secured. Lord Brougham says that science or education would not only make our lives more agreeable, but better, and that these pursuits are found to be the sure paths of virtue as well as of happiness. General Eatou, the United States Commissioner of Education, after making very diligent and extensive inquiries on this subject, concludes that "the mere power to read and write increases the productive faculty of the laborer fully 25 per cent.," apart altogether from the happiness it confers. "So powerful is education," says F. Hill, Esq., author of a work on national improvement, "that, with comparatively few exceptions, the different countries of the world, if arranged according to the state of education in them, will be found to be arranged also according to wealth, morals, and general happiness. Dr. Potter states, in "School and Schoolmaster," "that education, if imparted to all the rising generation, will make the young provident, industrious, temperate, and frugal. Could the paupers of our own State be collected into one group, it would be found, without doubt, that five out of every six owe their present humiliating position to some defect or omission in their early training."

The Boston reformatory for young persons and prison for criminals are on Deer Island, a few miles from the city. In company with James Hughes, Esq., Inspector of Public Schools, Toronto, I had the pleasure of visiting these institutions in November last. I am quite prepared to believe the statement of the Superintendent, for everything was so nice, and every person seemed so happy, that the influences must have a very beneficial effect on the inmates. The children receive a good education, and the result is thus stated by the gentleman referred to: "In regard to the children, we have one fact to record, which is very encouraging. *It is very seldom that any of them return to this island.*" Such is the result of education.

"What have been the consequences of compulsory instruction?" "In Baden," says M. Cousin, "the morality and riches of the country have increased, the number of marriages is augmented, illegitimate births diminish, the prisons become empty. In 1854 there were 1,426 prisoners,

while in 1861 there were no more than 691. The number of thefts decreased from 1,009 to 460. On the other side, the material prosperity of the country made a wonderful advance. The current of emigration to America has been arrested, the warnings in regard to taxes have decreased two-thirds, the number of the indigent has declined one-quarter." Speaking of this extraordinary transformation, the Commercial Director of the Grand Duchy added: "The principal instrument of this development has certainly been the compulsory education of the popular classes."

What were the effects of the introduction of a national system of education on Scotland? Let Lord Macaulay answer:—"In the autumn of 1696 the Estates of Scotland met at Edinburgh. The attendance was thin, and the session lasted only five weeks. A few acts were passed; a small supply was voted. But by far the most important event of this short session was the passage of the act for the settling of schools. By this memorable law it was, in the Scotch phrase, statuted and ordained that every parish in the realm should provide a commodious school-house, and should pay a moderate stipend to a school-master. The effect could not be immediately felt. But before one generation had passed away, it began to be evident that the common people of Scotland were superior in intelligence to the common people of any other country in Europe. To whatever land the Scotchman might wander, to whatever calling he might betake himself, in America or in India, in trade or in war, the advantage which he derived from his early training raised him above his competitors. If he was taken into a warehouse as a porter, he soon became foreman. If he enlisted in the army, he soon became a sergeant. Scotland, meanwhile, in spite of the barrenness of her soil and the severity of her climate, made such progress in agriculture, in manufactures, in commerce, in letters, in science, in all that constitutes civilization as the Old World had never seen equalled, and as even the New World had scarcely seen surpassed. This wonderful change," he adds, "is to be attributed, not indeed solely, but principally, to the national system of education."

What education has accomplished for this and other countries it will do for all who are willing to put forth the effort necessary in this great cause. But different views are held on this subject in different places. Take the following, from one of our daily papers, as an example:—"Compulsory education is the order in Illinois. The youthful aspirant for knowledge is encouraged with such cheerful inscriptions as, 'Behave or get your head broke;' 'Learn or die,' written in large characters over the door of the school-room. One zealous school-mistress, prompted, doubtless, by a vague conception of shooting, in connection with the young idea, indulges in the pleasant practice of burning matches under the noses of her pupils. A committee, appointed to investigate the matter, brought in the lucid verdict of 'proper, but severe.'"

V. WHAT ARE IMPLIED IN OR BY COMPULSORY EDUCATION?

First, the universal diffusion of knowledge, especially among the young, and particularly that which prepares for better work in after life. The temple of knowledge in the story had twelve gates; with one key the student must open them all; but that key was activity and

accuracy of thought; in other words, an increased mental ability and logical power. Second, improvement in school architecture, so that the surroundings of the pupil during the plastic period of school life shall improve the taste as well as gratify the longings for the beautiful. Every facility for imparting instruction, not of words merely, or names, but of things, every means for conveying these ideas, must be provided and put into requisition. Schools must be better graded; the number of pupils to one teacher must not be above *forty*, irregularity in attendance greatly improved, and special attention paid to the health, comfort, and normal development of the pupils.

Third, there is also implied a better supervision of schools. At present the great step taken in establishing county inspectorships is merely a beginning; no Inspector should have more than *forty* schools in his district; monthly instead of semi-annual visits by the Inspector should be made; the authority, as well as the pay of these officials in country parts, should be increased, and their term of office made, like that of our Judges, during good behaviour; and the incumbent should be removable by the Government only, to which alone he should be responsible. No person should be allowed to teach even a private school without proper preparation, and all schools should be inspected by the proper official. Township boards, by which more equible school taxation will be secured, are also implied.

Fourth, but of little avail will every other improvement be unless the position of the teacher is made more secure, and his effective ability as well as his pay largely increased. Other things are important; this is absolutely necessary. It is the teacher that makes the school; the surroundings aid, but the instructor accomplishes; he moulds the heart and forms the character of the future occupant of every position in society. The true teacher will bear in mind that education is not a mechanical routine of duties, but a dynamical process; that it is effort that secures real improvement, and that he is responsible, not merely for what his pupils accomplish, but for all they could realize or should achieve. Much has been done for teachers, still much remains to be done. How different the examinations just closed from the following, said to have taken place in Kentucky in 1872:—

“Last week a young gentleman made application for a situation as teacher in one of our public schools here. The Commissioner and Examiner took him into a room for examination, and, if found qualified, to grant him a certificate. The following is reported to us to be the conversation that took place there:—

“*Examiner*—Where are you from, sir?

“*Applicant*—From Virginia, sir.

“*Ex.*—What county?

“*Ap.*—James County.

“*Ex.*—What is your county town?

“*Ap.*—Williamsburg, sir?

“*Ex.*—Where were you during the war, sir?

“*Ap.*—I was in the Confederate army; was wounded twice, and (unbuttoning his coat) am not ashamed to show them, sir.

“*Ex.*—All right, sir! All right! (turning to the Commissioner)—Write him a certificate, Mr. Commissioner.

"Can any one doubt that he would have ignominiously failed in his application if his wounds had been received while serving in the Union army?"

I am fully convinced that with proper facilities and good teachers, our pupils at ten years of age will be as far on in their studies—by which I mean the real work of education—as they now are when two years older; and two years at twelve are equal to five at twenty.

Moreover, the influences of education—for it simply means the formation of character, and character is the highest gift God has placed within our reach—are like our personal identity, of the most enduring nature. As it is so abiding, surely it should be of the purest and best possible type and kind. "An interesting but melancholy discovery was made the other day at the foot of Mont Blanc. A block of ice, separated from the mass of the mountain by the thaw, rolled down into the valley. Upon closer inspection, it was found to contain enclosed the remains of the American, John Blackford, who about three years since attempted an ascent, and has never since been heard of. He evidently met with his death on that occasion, and has since lain in his cold crystalline coffin, which has preserved his body and clothing admirably. When found, his features were unchanged, and he might have breathed his last only half an hour before."

Thousands of years ago the people of Egypt embalmed their dead, and so thorough was the process that their mummies are to-day in a perfect state of preservation. Countless ages ago insects were entangled, by some means or other, in masses of amber. So complete have been the preserving qualities of this substance, that the class, genera, and species of these little creatures are, with no difficulty, ascertained. Thus it is with education; but when the Egyptian art, the ice, and the insect shall have passed away, the influence of education shall still survive. Heaven and earth may pass away, but the sequences of our training shall forever remain.

It is matter of deep regret that we have as yet in our Dominion so few accurate statistics on many subjects of very great importance. While preparing this paper I found them scanty indeed. It is most sincerely to be hoped that our Government will shortly establish a "Bureau of Vital Statistics," so that clearer light may be thrown on the causes now operating to produce evils that might, like smallpox, be nearly, if not altogether, removed from the catalogue of ills to which humanity is liable. If such an enthusiast as my friend Mr. Magan, whom I am very happy to see in the audience to-day, were appointed to attend to such matters, the results would, I doubt not, prove of incalculable benefit to our race in the coming times.

You have, I fear, Mr. Chairman and fellow-teachers, been detained too long. The importance of my theme is the only excuse I can offer. I would like to refer to the excellent provisions of our school law on this subject—its history in other places, as well as to Norman School training; but you are all familiar with the first, and time forbids more than a passing allusion to the others. The effort has been made to explain what we mean by this term, the principles on which it is based, and the results that would follow its introduction; and by means of statistics—

those unerring guides, in whose averages implicit confidence can always be placed—to show that Universal or Compulsory Education would prevent pauperism, diminish crime, effect a great saving in public expenses, and multiply the blessings of life. Then we endeavored to show some of the principles involved in this great idea, as well as referred to some illustrations in support of the views advanced. Now we come to a conclusion.

“Instruct the people,” says Macaulay, “was the first advice given by William Penn to the new State which was then organized. Instruct the people was the last recommendation of Washington. Instruct the people was the incessant exhortation of Jefferson.” What the chisel in the hand of the sculptor is to the block of marble, what the Nile is to Egypt, what the sun is to our solar system, such is Education—physical, mental, moral—to the *genus homo*.

You are aware, Mr. Chairman, that the world we inhabit, with the rest of our planets, revolves around the sun as the centre of our solar system; that the sun, with all his attendants, is a member of the astral system supposed to revolve around Aleyone, the brightest star in the constellation of the Pleiades; that the position of our astral system at present is near the inner edge of that bright belt that spans the heavens, called the “Milky Way,” where the stars are, comparatively speaking, few and far between; that our motion in space is outward towards that part of the belt in which the stars are much more numerous as well as brilliant; and that hereafter the nocturnal sky to earth's inhabitants will be much more magnificent than we now enjoy. Such, it appears to me, will be a parallel to our descendants, in a social point of view, after they have enjoyed the benefits sure to follow as the result of the action and inter-action of Compulsory Education.

HAMILTON, *August*, 1875.

THE TEACHER'S LOVE FOR HIS PROFESSION.

BY THE VERY REV. PRINCIPAL CAVEN.

It is doubtful whether the office of the teacher has been held in sufficient honour, or his work has been sufficiently valued in any country or in any state of society. It is *not* doubtful that with ourselves the teacher—we refer especially to the Common School teacher—is but imperfectly appreciated. The very inadequate remuneration which he usually receives is not the only evidence—but it is sufficient evidence—of the truth of this statement. There may be other reasons than the want of appreciation for the inadequacy of the teacher's salary; but when all proper allowance has been made for these, it must, we fear, remain incontrovertible that we do not estimate at its true value the work of teaching. This circumstance cannot but prove discouraging to the teacher; and it goes far to explain the fact that in so many instances he hastens to leave his profession when any fair opportunity of so doing presents itself. A

proportion, no doubt, of those who engage in teaching legitimately aim, from the first, at passing into some other profession; yet, taking account of this, it can hardly be denied that too few teachers affectionately regard the instruction of the young as their life's work, and devote themselves to it with that undivided purpose which is required to the highest success.

We must remember, too, that in the routine of a teacher's duties there is a good deal to beget weariness, and also to try the patience. He has to teach the same subjects from day to day to the same pupils; a majority of whom can hardly be bright; while some of them will probably be stupid, and some perverse. He will not, in every instance, find that Parents and Trustees enter into his views, and co-operate with him at once in securing the discipline of the school and promoting its studies.

Putting together, therefore, the difficulties and trials inseparable from the teacher's work, and the utterly inadequate estimate which the community usually forms of its importance, we cannot be surprised if the teacher should sometimes give way to discouragement, and, by hurriedly forsaking his calling, seem to endorse the estimate of it which too generally prevails. But there are great compensations here; and it is very unnecessary that the teacher should regard his profession as wanting in attractions or unable to afford him pleasure in the exercise of it—as subordinate in these respects to almost any other human vocation. Even should the wrongs at the hand of the community, of which he justly complains, not be righted, it is impossible that to the mind of the intelligent and conscientious teacher his calling should be divested of the highest interest and attractiveness. You will permit me, in the remarks which follow, to point out some of the conditions under which this feeling of interest may be maintained and enhanced.

1.—*To preserve and strengthen his attachment to his profession, it will be necessary that the teacher should constantly seek to improve in his qualifications for it.* If he shall remain stationary here, it will be hardly possible, under any circumstances, that he shall continue greatly to love his work: the measure of enthusiasm with which he started will soon be expended, and he will begin to complain of the wearisome routine of his duties. Now, these qualifications may be regarded as consisting partly in the knowledge of the subjects taught in our schools and seminaries, and partly in the knowledge of the methods of teaching. That there must be great room for advancement in acquaintance with the subjects of instruction on the part of the majority of teachers—why should I not say all teachers?—is obvious. The law recognizes three classes of Common School teachers, and grades in two of these classes. Teachers of the second and third classes out-number those of the first. This is perhaps necessary, and is not to be complained of. No one is to be blamed for commencing to climb at the foot of the ladder. But why should the teacher consent to remain at the foot? I must speak guardedly; for there may, in providence, be circumstances which prevent a teacher of the utmost diligence, and with the strongest desire for self-improvement, from so prosecuting his studies as to qualify himself for a higher place in his profession. Let no word be here uttered indicating want of sympathy with the large class of teachers who find themselves worn out at the end of school hours, or

constrained to take up duties alien to their profession, so that little time and strength are left for study. Many of these are highly to be praised for the exertions they make, and for their perseverance in the face of difficulties. But there seems no good reason why teachers of ordinary talents, who have good health, and in whose way no special impediment lies, should not in time reach the highest certificate. Very many do so; they begin as third-class teachers, and attain at length to the first class. In many instances they have their hour for private study set apart, and nothing in the ordinary course of things must break in upon it. Amusements and social life are kept in their own place; all temptations to idleness are resisted; and without taxing themselves too severely or neglecting anything pertaining to their public duty, they gradually and surely rise to a good acquaintance with all the subjects taught in our Common Schools. Now, one may safely appeal to every such studious teacher whether he has not found that his diligence in the studies of his profession invest it with growing interest to him. It is not merely that he has attained, or will by and bye attain, to a higher status, and thus gratified an ambition which need not be sinful; but he has found his affections gather round his work in some proportion to the mental effort directed towards the attainment of excellence in it. I need not wait to illustrate the principle involved in this result; for it is universally recognized that the most important subject can become interesting to us only when the mental energies have been occupied with it, and that almost anything may come to possess absorbing interest if there shall be concentrated upon it a great deal of thought.

The examination for each of the classes of Common School certificates is now much higher than it was a few years ago. The standard has been wisely raised in accordance with the educational advancement of this Province; but the first-class certificate is still within the reach, eventually, of most teachers who will wisely use their time. To gain credit for this assertion, I do not need to descend to details. The members of this Association are better acquainted with the subjects of examination for certificates of the several classes than I am, and will at once sustain me in saying that it is not chimerical to speak of teachers of fair talent and ordinary application being, as a rule, able in time to master the subjects of a first-class examination. But should any fail in this, their labour will not be lost. The third-class teacher may reach the second class, if not the first; and—put it at the worst—should he not succeed in reaching the second class, he will at least be a better instructed and more competent teacher of the third class than he was before.

The teacher's first duty, no doubt, is to give faithful service in the school where he labours. He must not allow any scheme of private study to interfere with the performance of the work for which his services have been engaged. But it is very certain that a little time devoted to his personal improvement will have precisely the opposite effect. He will teach all the better, with all the greater zeal, on account of his increasing knowledge and mental discipline; and while in a very rare case you may find a teacher neglecting his duty because he is bent on study, you will have little difficulty in finding instances to prove that the teacher who forgets the cultivation of his own mind speedily settles down into a languid inefficiency.

The view which I have thus sought to set forth rather in its relation to the teacher in the Common School is, of course, applicable in substance to every teacher in every place of instruction. A necessary condition of heightening or even preserving our interest in the work of the class is, that we shall study our subjects more thoroughly, read more widely upon them, seek to master them both in principle and detail, get the mind filled and possessed by them.

There belongs also to the teacher's qualifications an acquaintance with the best methods of imparting instruction. The establishment of Normal Schools in all countries where the education of the people has received any measure of attention, bears witness to the importance attached, by common consent, to the art of teaching. But it is clear that no teacher, though he should have attended the best training school, can start in his profession with a thorough knowledge, theoretical and practical, of the methods of teaching. There must in this matter, as in scholarship, be gradual acquisition—gradual increase of proficiency and skill. Now, the observation and study of the pupil's character necessary to the attaining of such proficiency will not only relieve the routine of school-work of its character of drudgery, but will tend to make his profession in a high degree interesting to the teacher. Whatever interest, indeed, attaches to the study of the human mind and of human character, belongs to this part of the teacher's training; and this interest will be much enhanced by the practical end immediately in view.

2.—*But the love with which right-minded teachers regard their profession arises largely—we may say mainly—from the good which it accomplishes.* You will not accuse me of unseasonable moralizing in calling attention to a truth so important, though so obvious, as this. The conscientious teacher will seek to be deeply penetrated with it, and will draw his strength and his inspiration very much from the consideration that, however he may be remunerated, whatever social position may be accorded him, whatever measure of sympathy he may receive from those who should know his trials, he is engaged in labours which are of incalculable benefit to the community. The teacher who wishes to act from the highest motives will frequently dwell upon this thought, and in spite of all misappreciation will see his work and office invested with the highest dignity and glory.

Now, it is superfluous that we should here attempt to settle any question as to the place of relative importance held by teaching as an occupation or profession. To do so were a difficult thing, and the attempt might be hardly free from invidiousness. For, as in the body, the head cannot say unto the feet, "I have no need of you," so, all the various legitimate employments exercised among us conduce to the welfare of society: none of them can well be wanted, and the profession of teaching has no interest in depreciating any of them. But the teacher may justly claim that no occupation is more intimately connected with—contributes more directly to—the conservation and the increase of all that is most valuable to society. Perhaps a qualification of this statement ought here to be made. For if the Christian ministry be compared with other vocations, it must be allowed to have pre-eminent importance. Other callings will not grudge, surely, that it should be so regarded. This is no question of social precedence; and he who rightly exercises the ministry of the

Divine Word will be humbled rather than elated with pride when he calls to mind the momentous consequences depending upon the faithful discharge of his office. But, if man is to live for ever, and if his well-being depends chiefly upon his moral condition, then must that work which contributes in the highest degree to his moral perfection stand in importance before all others. At the same time, it were a shallow view which should classify all other callings as secular, and as invested only with the subordinate interest belonging to temporal things, while the gospel ministry should be held alone to partake of the transcendent importance attaching to the things which are unseen and eternal. Other employments may partake—some of them do largely partake—of the nature of a ministry; and hence they are clothed, in their measure, with a sacred character too, and produce the same kind of fruit as the Christian ministry should bear. This, it may be truly said, is the case with the teacher's office. We return to this point; but shall first advert to the great value of the teacher's work to the community in its results not directly moral.

Our material interests are much promoted by the work of the teacher. This is true not only in respect to the fact that a special course of instruction is necessary in preparation for certain employments and professions indispensable to our material welfare, as medicine and engineering, *e. g.*, but in the light of the much more general fact that developing the mind and quickening the intelligence of a community leads to and ensures progress in all that constitutes its material well-being. A man who cannot read or write may draw a furrow or bind a sheaf as successfully as his well educated neighbour; but it were a great mistake to suppose that the husbandry of a country derives no benefit from the education and intelligence of its inhabitants. It is not simply, or even chiefly, that agricultural chemistry must be applied in the most successful farming (this would illustrate rather the importance of special training for particular employments); but that intelligence must direct and preside in everything that leads to success in cultivating the soil. The same remark obviously holds as to all other kinds of manual labour. Wherever the mind has to be employed, it must be advantageous to have it improved by training. Where the use of muscle only is needed, the intelligent man will have no superiority; but it were wasting time to prove that the province in which muscle suffices is very narrow—that muscle without mind will not ensure success in any kind of useful labour. It is not true, indeed, that the most intelligent and best educated men in a community are always the wealthiest; nor, perhaps, even on a national scale, should we find that education and wealth are always in exact proportion. We must ever remember that wealth and material well-being do not mean precisely the same thing; nevertheless observation will afford ample proof that ignorance tends to poverty, and that knowledge and intelligence are always, in themselves, favourable to success in life.

The teacher of every class and grade is therefore entitled to feel that his labours greatly contribute to our material benefit; and that, whether we gratefully acknowledge it or not, our prosperity as agriculturists, as manufacturers, as men of trade and commerce, is inseparably bound up with his often obscure and ill-remunerated labours.

When we advert to *political well-being*—to the safety and the progress of the State—the importance of education is equally obvious. It were out of place here to discuss the comparative merits of different forms of Government, or different conditions of the body politic as to the measure in which the popular element is introduced. Whatever kind of government a people may be under, it is necessary that intelligence should direct public affairs. A despotic monarchy or an oligarchy cannot long dispense with intelligence on the part of the one or the few who wield the power of the State. But the type of government with which we are concerned, and in connection with which we have to speak of education, is popular in its character. The masses are enfranchised and called upon to take their part in shaping the destinies of the country. It becomes, therefore, of the utmost consequence—indispensable to the national well-being—nay, to the very existence of the State, that the people should be found prepared to appreciate their trust and discharge their duty intelligently. Hence the necessity for their being educated, and raised above the gross ignorance in which they become the easy prey of the demagogue. This matter is now pretty generally understood by the thoughtful citizens of the neighbouring republic, and hence the zeal with which they insist upon popular education. They well know that to recall political power from any class once possessed of it is not possible; that whatever opinion they may have as to universal suffrage, retrenchment here is not a practical question: all the more, therefore, do they consider the education and enlightenment of the masses to be imperative. With ourselves the situation is not greatly different, and the argument for the education of the people hardly less cogent. Enough of rude and vicious ignorance has already been seen taking part in our elections, municipal and parliamentary, to warn us that we are not quite beyond the reach of danger; nor is it possible that any improvement in the method of registering the mind of Constituencies can afford us sufficient protection.

But is the education of the masses, then, adequate guarantee that political power shall be wisely exercised? Is all risk at an end when the Common School is satisfactorily doing its work in every part of the land, and our High Schools and Universities crown the edifice of national education? We dare not answer in the affirmative. We may not forget that to the welfare of the State, even as to individual welfare, there is something still more requisite than knowledge. It is “righteousness which exalteth a nation,” and which protects it as well. The government of the universe is a moral government, and no nation or community which forgets this all-important fact can long walk in the path of safety. But, whilst not identifying the mere enlightenment of secular education with the moral qualities which the State must have in order to ensure its prosperity, we must yet regard this enlightenment as in itself good and necessary—as *one* of the conditions of national welfare; and we would certainly expect to find the moral element referred to rather in union with education and intelligence than apart from them. The importance of the teacher’s function, then, is here sufficiently obvious to lend great interest to his work in his own eyes and in the eyes of all reflecting men. His services cannot in any way be dispensed with—hardly

overvalued. He may be sure that the country has not more need of Magistrates and Judges and Legislators and Governors than of him.

We make reference, last, to the moral results of the teacher's work. Teaching is a great moral instrumentality, and all the transcendent importance which attaches to morals must reflect dignity and interest upon the teacher's office. The teacher, if a good man, will be greatly impressed with his responsibility, but he will also be cheered and encouraged when he thinks of the great field for doing good which his profession opens up to him.

In our public schools no place is assigned to direct instruction in religion. It is unnecessary here to say anything regarding the reasons why this is so, or to express any opinion upon the point now being discussed by some whether, without trenching upon the field of denominational peculiarities, some measure of instruction in the doctrines of the Christian faith might not be introduced? But taking things as they are—recognizing the fact that no religious instruction is provided for—I am very far from inferring that our schools have no character and no value as a moral and even religious agency.

But here, in passing, I would wish to guard against being supposed to concur in the view which thinks it possible to separate morality from religion, either in life, or in any exhibition of its laws and principles; or which holds that morality is the greater part of religion, and that it matters little, in any case, whether we have instruction in the specific tenets of the Christian system or not. I can hardly refrain from characterizing any such view as thoughtless and shallow, and utterly unworthy of being adduced to vindicate the exclusion from our schools of instruction in the doctrines of Christianity. Say, if you will, that the schools are not meant to teach religion, or say that the divided state of opinion among us forbids that religious dogma should be taught, but don't say that morality is independent of religion, or that we can ever rightly appreciate relations of duty as towards our fellow-men apart from the recognition of our true relations to God. At the same time moral duties may be taught in consistency with the fact that they have their root in religion, taught in harmony with the spirit and temper of the gospel, whilst the distinction between morals and theology is respected; and thus the whole tendency of the teaching may be in favour of religion, though there should be no express inculcation of its dogmas. There is a philosophy which holds that intellectual and moral qualities in the individual are much more closely allied than is generally supposed, or which even takes them, at root, to be identical. On this point I shall offer no opinion; for, however we may decide, it is evident that intellectual training and development must in many respects open up the way for the teacher of morals and religion; nay, unless conducted with an aim expressly hostile to truth and goodness, can scarcely fail to confer some direct moral benefit. When the eye is being opened to see the wonders and beauties of the intellectual world, it is hardly possible to prevent every ray of moral light from entering the soul.

Again, instruction in morals is a recognized part of the course in our schools. I do not know to what extent teaching in this subject is actually given in Common and High Schools; but an opportunity is here fur-

nished for directly promoting the moral improvement of the pupils, and aiding in the formation of their character. It is, of course, possible to give lessons on morality in a way that shall have little or no effect in the formation of character. The subject may be dealt with coldly, or from a purely scientific point of view; but if the teacher is at all in sympathy with the lesson, he can not fail to do more than merely convey a little information. Holding firmly the opinion above enunciated as to the connection of morality with religion, I should yet think that no person can do otherwise than regard the instruction referred to as good and valuable; and, especially when imparted by a religious person, will it suggest and tend towards the deeper teaching out of which it springs.

The personal character of the teacher is too important an element to be here left out of the account. In almost everything, indeed, *character* asserts its power. Two persons can hardly meet for any purpose without moral influence going forth. But scarcely can any parties be brought together under conditions more favourable to the exercise of influence than those defined by the relation of teacher and pupil. The official position of the teacher and his superiority in knowledge give him an ascendancy which may become a very benign moral power. Let his own nature be pure and benevolent, reverent and truthful, and he can hardly fail to exert a decided and happy influence on the young minds around him. A healthful moral atmosphere will pervade the school, which very sensitive natures will constantly inhale; and thus directly and indirectly—not least in the latter way—the character of the teacher will tell upon his scholars, and his relations to them will become even sacred.

If, then, all the more important interests of the community—interests moral and religious as well as political and material—are thus subserved by the teacher's labours, is it not allowable—is it not demanded—that he should think highly of his office, and see it to be worthy of having his zeal and energies fully consecrated to it? The true teacher will no more be an “hireling” than the true pastor. He will work from a high sense of duty; he will be encouraged and stimulated, if not moved to enthusiasm, when he remembers the high importance of his labours, and sees around him youthful minds which it is his privilege greatly to mould—to inform with knowledge and influences which, by the divine blessing, may prepare them not only for useful citizenship, but may contribute their share towards the formation of that character which shall fit them for the skies.

CERTIFICATES TO PUBLIC SCHOOL TEACHERS.

BY JOHN THORBURN, M.A.

MR. PRESIDENT, LADIES AND GENTLEMEN,

The subject which has been assigned to me, and which I have now the honour of bringing under your notice, is “Certificates to Public School Teachers.” When I was asked, a few weeks ago, by your Secretary to prepare a paper on this important practical subject, I must acknowledge

it was with some degree of reluctance that I gave a conditional promise. I should have preferred that it had been entrusted to some one more conversant with the working of our present system—one whose practical experience in public school work would have better qualified him to discuss it in all its bearings. I felt, however, that as you did me the honour, at your last annual convention, of electing me one of your Vice-Presidents, had I refused compliance with Mr. McMurchy's request, I should have failed in my duty to my fellow teachers, and laid myself open to misapprehension.

Within the last half century, an immense progress has been made, on both sides of the Atlantic, in the cause of popular education. Improved systems of instruction have been adopted, and a truer conception of the object and aims of education has gradually been reached. When Germany was overrun by Napoleon, Frederick William III. is reported to have said, "Unquestionably we have lost territory; unquestionably the State has sunk in external might and glory, but we will and must take care that we gain in internal might and internal glory; and therefore it is my earnest desire that the greatest attention be devoted to the education of the people." Again he says, "I am thoroughly convinced that for the success of all that the State aims at accomplishing by its entire constitution, legislation and administration, the first foundation must be laid in the youth of the people; and at the same time, a good education of the youth is the surest way to promote the internal and external welfare of the individual citizens." These words of the King had the right ring about them, and they found a hearty response in the breasts of all classes of the community. The result was, that within the next twenty years Prussia had made such progress in education that she attracted the notice of the other nations of Europe, and inaugurated a new era in the history of education.

We see law operating everywhere around us in the physical world, and there can be no doubt that it is equally operative in the phenomena of the human mind. It is true that these phenomena are much more subtle and complicated than those of matter; still this very complication renders it all the more necessary that they should be carefully studied, that the laws by which the growth and development of our mental powers and activities are governed may be discovered and applied to the advancement of a rational system of education. Every teacher should, as a primary and essential condition of fitness for his profession, have a certain amount of acquaintance with the Science of Education and of the principles upon which it is based. This will be of great service to him, not only as a means of disciplining and improving his own mind, but also of directing him to the selection of right methods of instruction. Without this preliminary equipment, much of his time will be misspent; his influence and usefulness as a teacher will be greatly impaired, and it is to be feared that his work in the school will have little educational value. Such an one will be like a man in charge of a vessel, who is ignorant of the use of rudder and compass, and who is carried hither and thither as whim or fancy may lead him. Experience has shown that the success of any system of education depends, to a large extent, upon the character of the teachers, and of their fitness for the duties they have to

discharge. The question then naturally presents itself, in arranging an educational system, "How can a sufficient supply of properly qualified teachers be secured, and by what means can they be permanently retained in the profession?" This question has been a perplexing one to most Governments, and various expedients have been adopted to meet it. In England, owing to the absence of any general system of education, great difficulty has been found in obtaining a sufficient number of good teachers for elementary schools. From the reports published by commissioners appointed to examine into the condition of the private and endowed schools of England, we are furnished with the most startling disclosures of the low state and inefficient management of these schools. In examining the private schools, one Commissioner tells us "that the majority of the teachers are deficient in every way; half educated, without any knowledge, without the force of character to rule and guide boys." Nor do the endowed grammar schools appear to be much better managed, so far at least as regards the character of the teachers and the work done by them. The general result was found to be utterly unsatisfactory, and the report accounts for this state of things by stating, "Untrained teachers and bad methods of teaching; uninspected work by workmen without adequate motive; unrevised or ill-revised statutes, and the complete absence of all organizations of schools in relation to one another, could hardly lead to any other result." In 1846 the Committee of Council on Education established a system of pupil teachers with very beneficial results. It was laid down in the regulations that, after passing a satisfactory examination before an Inspector, if thirteen years of age, promising lads at school might be appointed pupil teachers. They were to be apprenticed for five years, during which time they were to assist in the school; and for their services they were to receive a certain stated allowance, beginning with £10 for the first year, and ending with £20 for the fifth and last year. They were to receive instruction for so many hours in the week, and at the end of their apprenticeship, they were required to satisfy the Inspector in the course of study they had been pursuing. Queen's scholarships were also provided for such pupil teachers as might wish to enter a training college. The course of study there might continue for one, two or three years, and certificates might be obtained at the end of each year, entitling the holders, when they taught in elementary schools, to an annual allowance from the State. This arrangement seems to have proved so far a success, as in 1874 there were somewhere about 15,000 certificated teachers in England; but it has been estimated that if compulsory education were enforced, besides those already engaged in teaching, more than 20,000 additional instructors will be required. It will thus be seen that, as regards the matter of procuring a sufficient staff of teachers for the wants of the country, England has still a great work before it. The feeling, however, is gaining ground in that country among leading educational authorities, that no one should be allowed to open even an elementary school without possessing some qualifying licence. As has been said by a writer on this subject, "The medical quack is prohibited from plying his art even on willing patients; and the quack school teacher, though probably innocent of any intended fraud, should be prevented from inflicting irreparable injury on the children committed to his care."

In Prussia, where confessedly the system of public education is in advance of that of any other country, a most efficient system has been devised to give those who intend to become teachers a thorough course of professional training, and, what is of equal importance, to make their position at once profitable and honourable. Special seminaries exist at Berlin, Halle, and other centres of influence, for the training of teachers, and for their instruction in the practical requirements of their profession. Remaining there for three or four years, under the instruction of men practically and scientifically acquainted with the best principles and methods of teaching, they are allowed frequent opportunities of testing their teaching powers by conducting classes under the inspection of experienced teachers. In this way the theory and art of teaching are made to advance hand in hand. No person can teach in any capacity, either as an assistant or master of a public school, without a certificate of fitness shown by passing certain examinations. These are two in number. The first is for the position of assistant master; the second for that of principal. The first of these examinations takes place when the candidate has finished his preparatory training at one or other of the training seminaries. It is conducted by the director and teachers of the seminary, each one taking his own special branches, and it is superintended by the school committee of the province, assisted by the councillor of the department, who acts as president. The certificates of assistant teachers are of three grades—No. 1 being "Very well qualified," No. 2 "Well qualified," and No. 3 "Sufficiently qualified." The subjects of examination are such as are required in the schools, and the standing of candidates in each of the subjects is carefully examined, and upon the aggregate of these depends the character and grade of the certificate granted to each. No. 1 must have obtained "very good" in three at least of the prescribed subjects. Having passed this examination successfully, the candidate is then qualified to take any appointment as assistant. The second examination usually takes place at the end of the third year, but *must* be before the expiration of five years from the time of his passing the first examination. Without waiting for official notice, the assistant teacher, at the time and place appointed, presents himself with his first certificate to undergo his second examination. These examinations are partly oral and partly written. A teacher, after passing these two examinations, is required to avail himself of such opportunities as are furnished by Government for extending his practical knowledge of school management and promoting his general culture. There are certain periodical meetings also which a teacher is required to attend where educational subjects are discussed. These are held at stated times and places, and are under the management of accomplished and experienced men who have distinguished themselves in educational matters. The result of all this is, that Prussian teachers, as a class, are men of ripe culture and of large practical experience, and they hold a high rank in public estimation. In Prussia—and indeed this is true in most other German States—no one who has failed in any other employment or profession receives any encouragement to enter the teaching profession. The reverse of this is the case. The enclosure is too strictly guarded to allow admission to interlopers. The consequence is, school teaching is not resorted to as a

dernier resort, but it is followed by men of the highest orders of mind who have made it a life business, whereas those of an inferior order, who unfortunately in some other countries constitute the main body of teachers, are relegated to other and easier walks of life. Those who have visited Prussia from other countries, and had personal intercourse with the school masters, are unanimous in speaking of them as a body of men of extensive erudition and ripe scholarship, giving themselves heartily to their work, and taking pride and pleasure in it.

The public school system of this Province has, so far, been a successful one. Under the able administration of our Chief Superintendent, it has been modified and improved to suit the altered exigencies of the times, until now, I believe, it will compare favourably with that of any other country. As regards the character and qualifications of teachers, a marked advance has been made of late years. Since I went to Ottawa in 1862, a complete revolution has taken place, not only in the externals of education, such as school buildings and school furnishings, but also in the standing and qualifications of the teachers. I remember it was no unusual thing, at that time, for young men and women to present themselves for examination, who were ignorant of the simplest rudiments of learning, and utterly unfit to manage a school. Some of their examination papers were certainly unique, and might be worthy of preservation as landmarks in the history of our educational system. With your permission, I shall take the liberty of giving a few specimens. To the question, "Distinguish between ancient and modern history," the answer was given, "Ancient history is history before the flood, and modern history is history since the flood." Again, "Distinguish between cardinal and ordinal numbers." Answer, "The cardinal numbers are one, two, three, four, five, six, seven, eight, nine, ten; the ordinal numbers are eleven, twelve, thirteen, &c." "Give an account of the institution of the Olympic games." "The Olympic games were tilt and tourney, instituted by Charles II. in the 17th century." Nor was their knowledge of geography any more satisfactory, as may be seen from the fact that the Red Sea was said by one of the candidates to be one of the New England States. Fortunately some progress has been made since then, and it is but seldom now that such specimens of ignorant presumption are to be met with among our candidates. Occasionally, however, a *rara avis* is to be met with still, whose appearance may be accounted for on what Darwin would call "a reversion to the original type." At the last examination recently held, in answer to the question, "Describe the course of the Mississippi," a certain candidate favoured the examiners with the startling intelligence that the Mississippi rises in the south, flows northward, and falls into the Baltic Sea. It is to be hoped that this was an isolated case, and that such aspirants will become less and less frequent.

In a recent article in the *Toronto Globe*, the writer, when referring to an advertisement for a teacher, "Salary \$200 per annum, Normal School certificate preferred," complains that the supply of teachers in some districts far exceeds the demand, and over-competition is affecting injuriously the status of the profession. "This evil," the writer continues, "is seen chiefly in the case of third-class teachers. The determination of the standard for them is virtually in the hands of local boards, and in some cases

the business of examination is carried out loosely enough." I have always thought that we have too many grades of school certificates in this Province, as the natural, and I might say, the necessary tendency of this is to lower the profession, and to do an injustice to those who qualify themselves for the higher grades. It is well known that most school sections, especially in country places, are less concerned about the qualifications of their teachers than about the salaries they have to pay them. I am not in a position to give the exact relative numbers of first, second and third-class teachers of Ontario. On my way up from Ottawa, I called at the Education Office for the purpose of obtaining some reliable information in reference to this point; but I was disappointed in this, as I found none was available. Judging, however, from the numbers who presented themselves for examination last July, there is good reason to conclude that a very large majority of our public school teachers have only *third-class* certificates. Taking the average number of second and third-class candidates from certain counties, a few of which have come under my notice in the newspapers, I find there are more of the latter than of the former in the proportion of seven to one. It appears to me that, taking a view of the whole case, the time has come when third-class certificates should be abolished. In Prussia, as we have already seen, there are only two classes of teachers in the public schools, and these appear to be sufficient to meet the wants of the country. The system there allows none who are not thoroughly trained and qualified to become teachers, and, by so doing, justice is done both to the teaching profession and to the general interests of education. In fact, as experience has shown, these are inseparably connected, for whatever benefits the one benefits the other also. The better the teacher is qualified and the better his remuneration, the better will the work be done, and the more surely will the interests of education be promoted. If what Kant says be true, that "behind education lies hid the secret of the perfection of human nature," the teacher holds the key which is to unlock this secret, and to introduce a better and more hopeful future for the coming generations of our race.

By the school laws of Michigan there are two classes of certificates granted to teachers, the one by County Superintendents, and the other by the Superintendent of Public Instruction. Those granted by the former are of three grades: the first is given to those who have taught at least one year in the State with approved ability and success, and is valid, in the county in and for which it is granted, for two years. The certificate for the second grade is conferred upon "persons of approved learning, qualification and character," and is valid throughout the county for one year. The teacher holding a certificate of the third grade can only teach in some one specified township, and his licence continues in force for not more than six months. The State certificate, given by the Superintendent of Public Instruction, entitles the holder to teach in any county or school district of the State, and is of perpetual validity, or so long as the moral and professional reputation of the holder remains good. The intention of this legal provision for granting State certificates is stated to be "to recognize and honour especially those experienced and successful teachers who have won an enviable reputation in their vocation, and have given character and dignity to the profession in the State;

and also to afford a proper incentive to commendable exertion on the part of young teachers."

In Ontario, as you are aware, first and second-class certificates are valid during good behaviour and throughout the Province. There seems to be an obvious anomaly in this provision, as they are issued under different conditions and by different school authorities, and yet they are both valid for life. I have already suggested that the granting of third-class certificates should be abolished. I would further suggest that the second-class certificates should consist of three grades; grade A being granted to those teachers who have taught successfully for three years, and to be valid throughout the Province for five years; grade B for those who have taught successfully for at least one year, and valid for all parts of the Province for three years. Grade C might be granted to persons of good educational attainments, and valid throughout the Province for the space of two years.

I would have the first-class certificates valid for life or during good behaviour, but only granted to such teachers as have successfully taught for five years. Normal School students, having had a thorough course of training and practical experience of teaching in a Model School, and having passed successfully the examination prescribed for first-class certificates, might be considered as having attained what is practically equivalent to teaching five years in a school, and be eligible for first-class certificates.

The question "by whom should certificates be granted?" is one about which, I am aware, a considerable diversity of opinion exists. So far as I am competent to judge, I would be in favour of having both first and second-class certificates granted by the same central board of examiners, acting under the authority and receiving their instructions from the Council of Public Instruction. This would ensure uniformity of action; certificates of corresponding grades would be of the same value; a better security would be given to the country that the examinations were *en règle*, and teachers would be placed on a more satisfactory and independent footing as public servants. Whatever gives security and dignity to the teaching profession will have a tendency to attract into it a higher and better class of men. At present it is too much the practice to look upon teaching as a stepping stone to some other profession. After teaching for a few years, young men ambitions of making for themselves a name in the world are too often tempted to quit the profession for some other, whose honours and emoluments have for them a greater attraction. The consequence of this is, the teaching profession suffers, and the progress of education is retarded, as their places have to be filled up by young and inexperienced teachers, whose services, for a time at least, cannot be so valuable. It has been said, "Get good teachers and then keep them as long as possible." This is an excellent school maxim, and if school boards were sufficiently alive to the highest and best interests of their schools, they would put it in practice more frequently. I should have liked, had time permitted, and had it been within the scope of my paper, to say a few words in reference to what I consider one of the most objectionable features of our public school regulations. I refer to the degrading and humiliating provision which makes it necessary every

year for a teacher to solicit, at the hands of his trustees, a renewal of his engagement. Such a system, I am convinced, is calculated to destroy a teacher's self-respect, and to foster within him a spirit of servile sycophancy. He has so many masters to serve, whose several interests and wishes must be consulted, that it would require the magnanimity of an archangel to make him submissive to his fate. I trust that this subject will receive the attention of your Convention on some future occasion, and that the time may soon arrive when a man can both teach a school and at the same time retain his manhood.

I am afraid that I have but very imperfectly and inadequately discharged the duty assigned to me. The subject is, undoubtedly, one of great practical importance. The teaching profession in this country is still far from occupying the position in public estimation to which it is rightly entitled, considering the nature and importance of the work done by it. Where high attainments are necessary to success in a profession, a corresponding prestige will naturally attach to it; but when one belongs to a profession in which little is expected, and which, in a majority of cases, is only entered upon as a makeshift until something better turns up, we can scarcely wonder that it should be but lightly esteemed. A teacher's work requires so many qualities of head and heart that it should have the talents and energies of our best educated and most highly cultivated men and women—men and women who are conscious of the dignity and sacredness of their vocation, and who feel that it is worthy of their most conscientious efforts.

RELATIONS BETWEEN HIGH AND PUBLIC SCHOOLS.

BY H. DICKENSON.

MR. PRESIDENT,

The Executive Committee of this Association, when they met last summer to arrange a programme for the present meeting, assigned to me the somewhat difficult task of introducing the discussion of the above subject. Seeing my comparative youth and inexperience, I urged upon them the necessity of selecting a more experienced individual, especially as the subject, being of a volcanic nature, was one that, unless approached calmly and with a desire to do full justice to the interests of both classes of schools involved, might cause the High and Public School sections of the Association to clash. They, however, appointed me the subject, and with a desire to have a paper worthy of laying before you, I introduced the subject into our County Association in order that the thoughts I had might be improved by discussion. Shortly after this the High School Inspectors grappled with the chief difficulty, and suggested to the Council of Public Instruction what they considered a solution of it. I have reference to the absurd manner in which the High School Grant was distributed. As soon as this was done, I corresponded with several of the members of the Executive Committee as to whether I should go on with the work of preparing a paper on the same subject, or whether it

would not be expedient to change the subject. All inclined to the opinion that the subject would still bear discussion. The few remarks I shall make, therefore, will be made from a neutral stand-point, and I hope those who follow in the discussion will endeavour to divest themselves of sectional prejudices, and argue from the same stand-point:—

1st.—HIGH AND PUBLIC SCHOOL PROGRAMMES.

The Council of Public Instruction has arranged a Public School programme for six classes. The work of the fifth and sixth classes corresponds almost exactly with that laid down for the first and second forms of High Schools. As far as pupils individually are concerned, it does not matter one iota where they go over the work laid down in the programme for those classes. Why the Council of Public Instruction has caused the programme of the two classes of schools to overlap is more than I have been able to determine. I am aware of the advantages of the early introduction of pupils into classics. I believe that those who intend following classical studies should early be introduced into the rudiments; and the High School is the natural place for the classics. But why rudimentary classics have not been introduced into preparatory classes, and why they have taken two years' extent of work out of the Public Schools and established what is called the English course in the High Schools, is again more than I have been able to determine. The great objection against leaving the dividing line between the two schools where it is (and to me it seems insuperable) is, that it must be next to impossible for a High School staff of teachers to frame time-tables at all suitable to the wants of their two distinct classes of pupils. Imagine a school with a hundred pupils, fifty of whom take the classical course, and the remainder the English course. It is to be presumed that those taking the English course are under the care of attentive teachers the whole time. How time can be found to do justice to the fifty classical pupils is hard to imagine. And where the exceptional subjects intended to season the English course come in and how they are taught passes my comprehension. I have an instance in my mind where a High School master took over two months at his time-table and broke down through illness before his task was completed. The High School Inspectors, in their recent suggestions, say "that the formal distinction between the English and the classical course cannot in practice be maintained; that the sharp division of High School pupils into four forms cannot be effected; and that too many subjects and too many classes have to be carried on concurrently." They therefore recommend "that it be left with the local authorities to determine the order in which the subjects should be taken up, the amount of work to be done in a given time, and the number of classes to be carried on at once." If this leniency be shown to the High School authorities, and the Public Schools are compelled to rigidly adhere to the programme, I am afraid dissatisfaction must inevitably follow. Another reason why the dividing line between the High and Public Schools of the Province should be changed is this—Parents have the power to remove their children from one school to another whenever the whim seizes them. Fifth and sixth classes in Public Schools, and even first and second forms in High Schools, are to a great extent placed at the mercy of such parents. For the most trivial causes pupils are

taken from one to the other, and the discipline of both schools most seriously affected. It would be far better were the Council of Public Instruction authorized to arrange programmes for the schools of the Province, whereby the primary object of the Public School would be to give an English education, and the primary object of the High School to teach the classics. Parents would not then, as now, have a divided opinion as to the best place to educate their children, and the evil spoken of by the High School Inspectors, viz., that "too many subjects and too many classes are carried on concurrently," would then be removed from the High Schools.

2ND.—UNION BOARDS.

The law prescribes that no more unions between High and Public School boards shall take place. At the same time it does not interfere with existing unions. Then the sixty-six union boards in the Province have the facilities within themselves of transferring their fifth and sixth classes from the Public Schools and filling their High Schools readily; while those places which were not fortunate enough to secure a union of boards before the law prohibited it, but have separate boards elected to keep the standard of their respective schools as high as possible—the forty-two places that are thus situated must either elect trustees for their Public Schools, who will hand over the pupils of their highest divisions to High School control, in order that they may have the best material to assist them in securing as much of the already celebrated \$10,000 grant as possible—in order that they may have the opportunity of securing the \$60 per pupil for those who pass the "intermediate examination," or sacrifice largely their pecuniary interests. I say \$60 per pupil. It may be asked how I obtain this. In the High School Inspectors' suggestions I find \$14,600 to be distributed on the results of an intermediate examination. They also assume as the maximum number of pupils in the "upper school" 240. This gives over \$60 apiece. A large grant truly to be distributed by three men to the schools; but certainly an improvement on the old order of things, when every inducement was offered for transferring fifth and sixth classes over to the care of monitors and pupil teachers, and no inducement offered to High School teachers to bring their pupils above a certain standard after getting them. As for the \$10,000, report has it that the High School Inspectors "suggested" that they have a much larger sum. In my humble opinion they have \$10,000 too much. Objection was taken yesterday to the third-class teachers' incubus that is weighing down the Public School system. Need we wonder at this when we consider that, by prescribing the English course in the High Schools, those are made into Normal Schools for the special preparation of third-class teachers? Again, in 1873, Toronto had 1,241 pupils in the fifth class and 270 in the sixth; Ottawa, 128 in fifth and 57 in sixth; Hamilton, 17 and 0; London, 169 and 0; and Kingston, 153 and 157 in fifth and sixth classes, respectively. Of these Hamilton and London had union boards, and had 186 pupils in their fifth and sixth classes, while they had 580 pupils in attendance at their High Schools; and this number has been since augmented, so that Hamilton alone had within the last year an attendance of over 400 under so-called High School training. The other three—Ottawa, Toronto and

Kingston—had non-union boards, and had 2,006 pupils, or over ten times the number that London and Hamilton had in the fifth and sixth classes, while they had only 412 in attendance at their High Schools. The Legislative grant to Hamilton and London amounted to \$5,568, while Toronto, Ottawa and Kingston only obtained \$4,939; i.e., 50,000 inhabitants drew \$600 more out of the Provincial treasury than 120,000 inhabitants did. Instead of \$4,000, the grant to the latter three places should have been about \$13,000 in the same ratio. Again, look at the disproportion between the union and non-union Free Schools in 1871, 1872 and 1873:—

No. of Union Free Schools in 1871.....	47
“ Non-union “ 1871.....	14
“ Union “ 1872.....	54
“ Non-union “ 1872.....	20
“ Union “ 1873.....	55
“ Non-union “ 1873.....	22

This state of things was mainly brought about by the union boards having such ready transferring facilities, and thereby bringing such an influx of the legislative grant into their treasury as to enable them to throw the doors of their High School buildings open; while those places which have non-union boards (and which the law says must have) have not only to pay fees for their pupils, but they must assist those places that have union boards to pay their expenses by means of the Government apportionment. Certainly there was strong reason for the High School Inspectors “suggesting” that the grant to High and Public School pupils should be similar. Could not they have continued their suggestions, and recommended that the Gordian knot binding these Siamese twins together should be severed? Might they not safely have suggested that all schools might be free except for exceptional subjects? And further and more important, might they not have suggested that the work of the two classes of schools be distinctly defined—that the two classes of schools be not placed in direct antagonism for at least two years’ extent of work? I care not where the dividing line be drawn so long as the work does not overlap. To preserve harmony and to prevent present difficulties becoming chronic, this is imperative. Rivalry will thus be prevented, and each system will be left to carve out its own destiny.

I am aware that strong arguments are sometimes advanced by advocates of union boards in their favour, and I have no doubt but that such will be used here to-day; such, for instance, as that a teacher might be engaged to teach special subjects in both schools. This argument I have listened to, and think it a very weighty one—a very weighty one, indeed—in favour of union boards, if it could be shown that separate boards could not do the same. However, my opinion is not very dogmatic now on this union board question. It was; but since the High School Inspectors have grappled with the chief difficulties, I am loth to vote union boards nuisances. I think the nuisance lies in the fact that some are union and some non-union. By all means let us have uniformity. Let all boards be union or else non-union; let all schools be free. And if the clause allowing trustees to engage pupil teachers be left untouched, by all means let the dividing line between High and Public Schools be drawn

where it will leave as many as possible under the care of experienced teachers, especially as additional Normal Schools are being provided.

3RD.—PREPARATORY CLASSES.

I hope those who have established preparatory classes will not feel aggrieved if I should tread on their toes a little to-day. The fault lies in the system allowing their establishment, and not in those establishing them. Not content with making arrangements whereby a spirit of discontent and insubordination has been introduced into the upper classes of the Public Schools—whereby pupils of a certain grade may vacillate between the fifth and sixth classes of the Public Schools and the first and second forms of the High Schools—our educational authorities must needs aggravate and intensify the evil by allowing the establishing of what they call preparatory classes for High Schools. After having introduced shakiness into a majority of the fifth and sixth classes of the Province, they must needs try their hands on the third and fourth. If the discipline or the attendance at the Public Schools be not in accordance with the preconceived ideas of certain classes of the community, their children are removed and find a too ready asylum in these preparatory classes. We thus find that, wherever found, these classes present either a sort of a *heterogeneous* mass of malcontents, or else are composed almost entirely of a few children of aristocrats, who will not allow their offspring to become contaminated with too familiar connection with the masses. This pandering to aristocracy is scarcely in harmony with the character of our institutions. If preparatory classes are a necessity to the classes supporting them, let them establish them as private institutions. The “otherwise educated” clause of the late School Act allows them the privilege; but why the Government should allow their establishment in connection with the High Schools of the Province is a mystery. They are considered by all, except this aristocratic element, as unnecessary. They are a complete loss to the localities establishing them, as pupils attending them can be ranked neither as High nor Public School pupils, consequently no Government grant is drawn for them. They are a drain upon the class that supports them, and a heavy drain too, as the pupils’ fees must support expenses. I am afraid that too often the law on this point is evaded, and the teacher of some special subject in the High School has the control of the preparatory class during his spare time. I am glad to be able to say that in Brantford they have come to the conclusion to break up their preparatory class, and as a direct result there, they anticipate a strengthening of the hands of the teachers of the third and fourth classes in the Public Schools.

4TH.—EXAMINING BOARDS.

As the High School Inspectors “suggest” that the sum of (say) \$10,000 be distributed annually amongst the High Schools according to their efficiency, and also that \$14,600 be distributed on results of intermediate examination, it is absolutely essential that schools entering into competition for those large sums should have a fair start. In order to ensure this it would be necessary to have not only one uniform examination the Province over, but one examining board. If one is necessary to secure uniformity, the other must be. If, as it is argued, there should be

only one board for examining those applying for second-class Public School certificates—if, as it is “suggested,” one board examine candidates at intermediate examinations—then we hold that there exists a necessity as great as in either of the above cases of having the entrance examination into High Schools of a uniform character. As at present constituted, every board has a different standard; and up to the present time, boards allowing their human nature to follow where their interests lead, and on the supposition that all other boards are lenient, give themselves every latitude in the conducting of examinations. Let the present board be remodelled; let the Public School Inspector conduct the entrance examination as it is proposed he should conduct the intermediate examination. Let the papers be opened, and, if necessary, the answers closed in presence of the candidates for entrance. Let the work of the examining committee be not only to overlook the report of the local examiners, but to make the examination themselves. If, as the High School Inspectors “suggest,” the Public School Inspectors, or their substitutes (who should in no case have any connection with the schools to be examined), should be responsible for the proper conduct of the intermediate examination—if, as they further “suggest,” the answers of candidates should be sent to Toronto to be read and valued by the High School Inspectors, or sub-examiners acting under their supervision—why is there not as great necessity in the entrance as in the intermediate examination? The chief objection is that additional expense would be incurred; but if 8,000 papers can be examined for \$800, as the High School Inspectors claim, very little difficulty will arise on that score. Another objection is centralization; but I think that the benefits accruing from a uniform standard would counterbalance all objections.

5TH.—SUBJECTS OF EXAMINATION.

At the present time the only subjects entrants to High Schools are examined upon are Reading, Writing, Arithmetic, Grammar, Spelling, Geography and Composition, leaving out entirely English History, Canadian History, Natural History, Christian Morals, Chemistry and Botany. Now, Sir, although we may not all be of one mind regarding the placing of those subjects upon the programme at all; seeing that those subjects are upon the programme for the fourth class; that the fourth class examination is the standard of admission, and that teachers are compelled by regulation to devote a portion of their time to the teaching of those subjects, it seems to me that a direct premium is offered for neglecting those subjects by not preparing papers on them; and teachers who attempt to carry out the fourth class programme in its entirety are thus taken at a disadvantage, part of their time having been taken up in giving instruction in those branches on which no examination is required. A far more preferable plan, and one which would mete out justice to all, would be to give papers on all the subjects in the programme, assigning less value to a paper on a minor subject, but still sufficient to prevent injustice being done to those teachers who attempt to carry out the fourth-class Public School work in full.

I hope the Association will excuse defects in this paper, as the few thoughts it contains have been hurriedly put together during the past few days.

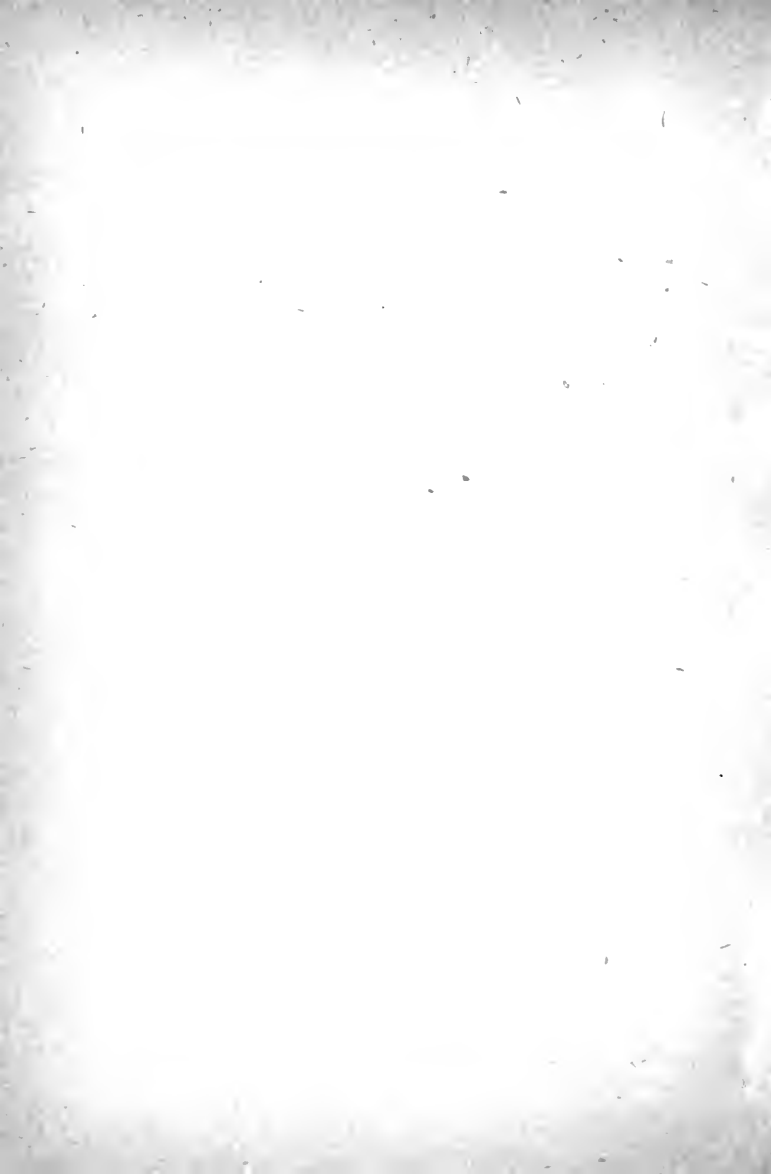
MINUTES
OF THE
SIXTEENTH ANNUAL CONVENTION
OF
THE ONTARIO ASSOCIATION
FOR THE
ADVANCEMENT OF EDUCATION,
HELD IN THE
THEATRE OF THE NORMAL SCHOOL BUILDINGS,
TORONTO,
ON TUESDAY, 8TH AUGUST, 1876.



HAMILTON :

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1876.



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FOR THE ADVANCEMENT OF EDUCATION,

HELD IN THE THEATRE OF THE NORMAL SCHOOL BUILDINGS, ON
TUESDAY, THE 8TH AUGUST, 1876.

The First Vice-President, Mr. R. McQueen, in the Chair.

At 3 o'clock in the afternoon, Mr. A. Macallum, at the request of the Vice-President, read a portion of Scripture and led the Convention in prayer.

The Roll of Officers was called by the Secretary.

John Campbell, of Toronto, aided as Minute Secretary.

Moved by Mr. Strang, seconded by Mr. McIntosh,

That the Minutes of the last Meeting, having been printed and circulated among the members, be considered as read and be adopted as correct.

The Treasurer, Mr. S. McAllister, read his Report, which showed that an addition has been made to the Funds during the past year, so that, financially, the affairs of the Association are in a very satisfactory state.

Mr. McAllister moved, seconded by Mr. A. Macallum,

That the Treasurer's Report be received and adopted.
—Carried.

The President nominated the following Auditing Committee to examine the Treasurer's Statement: Messrs. A. Macallum and W. Anderson.

The Secretary stated that he had communicated with several gentlemen in reference to the delivery of addresses to the Association.

The Minister of Education had engagements which prevented his being present.

Principal Dawson, of Montreal, always laid out work for his holidays, which took him near the sea.

Mr. David Mills, M. P., had written to say that he had duties to fulfil which would render it impossible for him to be present this year.

Dr. Haanel, of Victoria College, would take the place of Principal McVicar, of Montreal, who had consented to deliver an address, but had afterwards asked to be relieved this year.

Dr. Ryerson had left an address, which would be read that evening; and the late President, Professor Goldwin Smith, kindly consented to address the Association.

The Secretary suggested that a minute should be prepared in reference to our regretted friend, the late J. B. Dixon, of Peterborough.

He moved, seconded by Mr. W. McIntosh,

That the following members be appointed a Committee to draft a minute, expressive of our esteem for the late J. B. Dixon Esq., M. A., late Head Master of the Peterborough C. I.: Messrs. E. Scarlett, W. Anderson, W. McIntosh and the mover.

A Copy of the Minute to be sent to the family of Mr. Dixon.—Carried.

Mr. R. Alexander introduced the first subject on the Programme.

The Method of preparing and revising "Text Books."

He said that instead of making any lengthened remarks on the subject, he would offer the following resolution, seconded by Mr. Suddaby:—

That, in the opinion of this Association, there should be provision made for the thorough examination of new Text Books, and the careful revisions from time to time of such Text Books as are or may be authorized ;

Therefore be it resolved that the appointment of a Committee for the above purpose be respectfully urged on the attention of the Minister of Education ; and further, that the Committee be selected from a list of names furnished by Inspectors, County Associations, or the Provincial Association.

Messrs. Miller, (Walkerton) Macallum, Sullivan. Suddaby, Moran, McIntosh, Scarlett, McMurchy, Strang, Brown, Dearness, McKellar, Campbell, Osborne, Smith, and the Mover, took part in the discussion, which was adjourned.

It was moved by Mr. H. Dickinson, seconded by Mr. A. McMurchy,

That the hours of meeting for this Convention be from 2 to 5 o'clock p. m., and from 7.30 p. m. to adjournment ; the forenoon of each day being for Committee Meetings of the different sections of the Association.—Carried.

EVENING SESSION.

The Vice-President took the Chair at 7.30 p. m.

PRESIDENT'S ADDRESS.

The Secretary read a communication from Dr. Ryerson, the President, expressing unabated interest in the work of the Association, together with an address to the Inspectors and Teachers of High and Public Schools, written by him at the time of his retirement from office, and then published in the "Journal of Education."

The Paper dealt with the qualifications, character and remuneration of teachers, and pointed out the great improvement which had taken place in these matters of late years.

Mr. J. H. Knight moved and Mr. Scarlett seconded a vote of thanks to Dr. Ryerson for his able address.

RECEPTION OF DELEGATES.

Mr. Strang reported on behalf of the County of Huron Teachers' Association, of which he gave an interesting account. He stated that about 160 teachers attended during the year, and that good work had been done.

Professor Goldwin Smith was then introduced, and explained that he had been called on during the afternoon to fill a gap, and hoped the Association would excuse him if his address was not of such interest as it might be.

He delivered a very interesting address on "A Tour in England."

The address was well received, frequently applauded, and listened to with the greatest attention.

Mr. W. Anderson moved, seconded by Mr. A. Macallum, That a vote of thanks be given Prof. Goldwin Smith for his excellent address.—Carried.

Prof. Smith, on behalf of Mrs. Smith, invited the members of the Association to meet them at the Grange on the afternoon of Wednesday, *after* 5 o'clock.

Mr. White, ex-President of the National Teachers' Association of the United States, and Principal of the New York Normal School, addressed the Convention, on the invitation of the Chairman.

Mr. J. R. Miller moved, seconded by Mr. E. Scarlett, That a hearty vote of thanks be given Mr. White for his kind remarks and friendly greeting.

Mr. White, in acknowledging the vote of thanks, stated that the next National Convention would probably be held at Put-in-Bay, Lake Erie, and hoped to see a large attendance of Canadian educationists.

The Convention then adjourned.

Wednesday, August 9th, 1876.

The Convention met at 2.30 p. m.

Mr. R. McQueen, First Vice-President, in the Chair.

Rev. Mr. Grant opened the Convention by reading a portion of Scripture and engaging in prayer.

The minutes of the previous meeting were read and confirmed.

The Auditing Committee reported that they had examined the Treasurer's books and vouchers and found them correct.

Mr. R. Alexander moved, seconded by Mr. McMurchy, That the Auditor's Report be received and adopted.—Carried.

Mr. Richard L  wis (of Toronto) introduced the next subject on the Programme, viz:

“The Examination of Public School Teachers.”

The discussion of the subject was participated in by Messrs. D. C. Sullivan, S. McAllister, A. Macallum, W. McIntosh, J. Seath, W. J. Connor.

Mr. Sullivan moved, seconded by Mr. Wadsworth,

That a vote of thanks be given to Mr. Lewis for his Paper on “Examination of School Teachers.”—Carried.

The discussion on Mr. Lewis' Essay proceeded until the hour of adjournment, when the members of the Association repaired to the Grange, where they were warmly received and sumptuously entertained by Mr. and Mrs. Goldwin Smith.

EVENING SESSION.

The First Vice-President in the Chair.

Mr. J. Seath, B. A., (of St. Catharines) read an admirable paper on the High School System, which was listened to with marked attention, eliciting a warm discussion, in which the following members took part: Dr. Crowle, Messrs. Dawson, A. Purslow, J. Strang, Brown, J. W. Connor, A. Miller, W. B. Harvey, McGregor, W. McIntosh, A. Macallum, W. Carlyle, D. J. McKinnon, A. McMurchy, J. C. Glashan and J. Seath.

Mr. Purslow (of Port Hope) moved, seconded by Mr. Strang (of Goderich), that a vote of thanks be given to Mr. Seath for his thoughtful and excellent paper.—Carried.

The Association then adjourned.

The Convention met at 2 o'clock p. m.

Mr. R. McQueen, First Vice-President, opened the Meeting by reading a portion of Scripture and engaging in prayer.

The Minutes of the previous Meeting were read and approved.

ELECTION OF OFFICERS.

The Nominating Committee, recommended the following names as officers for the ensuing year:—

President—Rev. Principal Caven of Knox College.

Recording Secretary—A. McMurchy, Esq., M. A.

Corresponding Secretary—James Hughes, Esq., P. S. I.

Treasurer—S. McAllister, Esq.

All were unanimously elected.

THE COUNCIL OF PUBLIC INSTRUCTION.

Mr. James Hughes addressed the Convention on the next subject on the Programme, viz:—

Should the Council of Public Instruction be continued, and made some valuable suggestion.

Mr. James Hughes moved, seconded by Mr. A. McMurchy,

That a committee consisting of Messrs. Seath, McMurchy and Dawson, of the High Section; Messrs. Johnston, McAllister and Alexander, of the Public School Section; and Messrs. McCallum, McIntosh, and the Mover, of the Inspection Section, be appointed to confer with the Minister of Education with a view to secure the establishment of a representative Board, to advise with him on Educational matters.

EXAMINATION OF PUBLIC SCHOOL TEACHERS.

The discussion of Mr. Lewis' paper, postponed from the previous day, was then resumed; Mr. McAllister introduced the following series of resolutions, which were the expression of the Public School Section in which they had been thoroughly discussed, they were not his resolutions but those of the Section.

The resolutions were taken up seriatim.

The first resolution was carried unanimously, without discussion. It read as follows:—

That in the opinion of this Association, extended experience in successful teaching, should be recognized on important element in grading first and Second Class Certificate.

The second resolution was then introduced.

The Candidates for the grades of first and second Class Certificate should be allowed the option of taking up the whole of the subjects at one examination, or of dividing them into the work of not more than two subsequent examinations. If they take up the whole at one examination and fail, they would require to be examined next year in those subjects only in which they failed.

Mr. Suddaby moved, seconded by Mr. Moran,

That in the opinion of the Association, it is advisable that candidates for first and second class certificate be examined in all the subjects at the same time as heretofore; that all persons holding third class certificate be required to write second class paper at the expiration of three years; that the Inspector be authorized to extend for one year the certificate of Candidates, who having failed to take a second class certificate, nevertheless made per cent in arithmetic and Grammar, separately and per cent on the whole.

As an amendment to the amendment.

Mr. McIntosh moved, seconded by Mr. Knight.

That all the words after "heretofore" be struck out.

An animated discussion ensued in which the following members participated, viz.: Messrs. Lewis, McIntosh, Dickenson, Brown, Smith, Slack, Knight, Phillips, Alexander, Johnston, Moran, Campbell, Scarlett and Anderson; several members referred to the evil system of cramming, others to the evil effects of the present system of examination.

The amendment and amendment to the amendment were put and lost.

Mr. Strang then moved in amendment, seconded by Mr. Smith,

That the resolution be amended by striking out the words "second class," and changing the words "two subsequent examination" to "one examination."

This amendment was also lost.

Mr. McKinnon moved, seconded by Mr. Lewis,

That the resolution be altered so as to read "No more than one Subsequent examination."

This amendment was also put and lost.

The original motion was then put and carried by 32 to 24.

The remaining resolutions were carried without amendment, and the Secretary was instructed to forward a copy to the Minister of Education

THE COUNCIL OF PUBLIC INSTRUCTION.

Mr. McMurchy, resumed the discussion on Mr. Hughes' motion respecting the Council of Public Instruction. He considered that there should be a large representation of Masters on the Central Committee. The right that they should be represented on the Council of Public Instruction had been granted to them after many years struggle, and had recently been taken away. He desired to see that privilege renewed.

Dr. Kelly thought it useless to create an advisory Board, because the Minister of Education was not bound to accept their advice.

Messrs. Dickenson, Seath and Scarlett, took part in the discussion of this motion.

Mr. Suddaby moved, seconded by Mr. S. Miller,

That the names of Messrs. Moran and Dickenson be substituted for those of Messrs. McAllister and Alexander.

He gave as his reason that the latter were opposed to representation in the Central Committee. Mr. McAllister explained that he was not opposed to it, but advised that the question be dropped for a year.

Mr. Alexander stated he would not work on the committee if elected after what had been said.

Mr. Knight advised the Association to give the Minister fair play, and not to hamper him with obstacles; but allow him his own way for some time.

The amendment was put and lost;

And the motion of Mr. Hughes was—Carried.

The Convention then adjourned.

EVENING SESSION.

The Convention resumed work at 7.30 p. m.

The Vice-President introduced Dr. Haanel, of Victoria College, Cobourg, who read a most interesting, eloquent, and learned paper, on "The constitution of matter," in which he treated of the divisibility, atomic constitution of matter, and the molecular constitution of the elements. He concluded by claiming that they were all subjects to a first cause, a unique and universal God.

Mr. Moran moved, seconded by Dr. Kelly,

That a hearty vote of thanks be given to Dr. Haanel, for his very excellent and learned Essay.

The motion was unanimously—Carried.

CENTENNIAL TRIP.

Dr. May was called on by the Vice-President, to give some information regarding the contemplated trip to the Centennial. He gave particulars of his scheme, for the excursion at a cost of \$25 per head, and offered to accompany them, introduce them to educationists in Philadelphia, and do all in his power to render the trip both profitable and agreeable. He stated that many of the Teachers in the United States did not know where Ontario was. The folk rather laughed at him when he spoke of the admirable school system in Ontario.

A committee was appointed consisting of Messrs. McMurchy, McAllister and Hughes, to wait on the Minister of Education, asking an extension of the Holidays for one week, such time to be considered as visiting days (by the Inspectors and Trustees), for those who would avail themselves of these in order to attend the Centennial and take advantage of this cheap trip.

Mr. Dearness moved, seconded by Mr. Brown,

That a vote of thanks be given Dr. May for his kind offer.—Carried.

The following delegates reported on behalf of their Associations:—

- Mr. McIntosh, Hastings.
“ Morgan, Stratford, Perth.
“ Suddaby, Waterloo.
“ Dearness, East Middlesex.
“ Dawson, South Hastings.
“ Coutes, Halton.
“ McArdle, Ottawa.
“ L. Clarke, Toronto.
“ McQueen, Wentworth.
“ Harvey, Gray.
“ Brown, Peterborough.
“ McIntosh, Northumberland.
“ Dickenson, North York.

REPORTS OF SECTION.

The High School Masters' Section, and the Public School Teachers' Section presented their reports which were adopted.

The discussion on "Text Book" was dismissed, as the Association had not time to continue it.

Mr. Dickenson moved, seconded by Mr. McMurchy,

That Mr. Dawson be appointed a delegate to represent this Association at the Protestant Teachers' Association in Quebec.—Carried.

It was decided to hold the next Teachers' Convention in Toronto.

Mr. Seath moved, seconded by Mr. Dawson,

That this Association desire to record their appreciation of the courtesy of their former President, Prof. Goldwin Smith, and to give public expression of their thanks to Mrs. Smith and himself for their hospitality.—Carried.

Mr. McIntosh moved, seconded by Mr. Dickenson,

That votes of thanks be given to the Railroad Companies for reducing the fares; to the Education Department for the use of the Hall; and especially to the City newspaper for their full and accurate reports of the proceedings; and to Mr. McQueen for his able conduct in the chair.

The National Anthem was then sung, and the Convention closed.

ARCHIBALD McMURCHY, *Secretary*.

TREASURER'S REPORT FOR THE YEAR 1875-6.

RECEIPTS.

Deposit in Loan Society, \$88 69.	Interest on
same \$5 40.....	\$ 94 09
Cash in hand.....	6 22
Members Fees.....	44 50
Copies of Annual Report Sold.....	41 20
Advertisements in Annual Report.....	30 00
	<hr/>
	\$216 01

EXPENDITURE.

Printing Annual Circular \$20 75.	Annual Re-
port \$74 91.....	\$ 95 66
Secretary's account for Postage etc., \$6 50.	Treas-
urer's postage \$1 00.....	7 50
Advertisements \$2 00.	Caretaker of Normal
School Buildings \$4 00.....	6 00
Balance on Deposit \$94 09.	In Cash \$12 76.....
	106 85
	<hr/>
	\$216 01

Audited and Found Correct. { Wm. ANDERSON.
A. MACALLUM.

PROCEEDINGS OF PUBLIC SCHOOL SECTION.

Wednesday, August 9th, 1876.

First Session of P. S. Section, held this morning in the Theatre of the Normal School, R. McQueen, (Kirkwall), in the chair.

At the request of the Chairman, Mr. Dickenson the Secretary opened the meeting with reading Scripture and prayer.

Minutes having been printed were held as read and approved.

A communication from Dr. May was laid on the Table.

Moved by Mr. McAllister, seconded by D. Johnston,

That the Secretary be requested to enquire at the Department whether any instructions or regulations exist to guide the action of the Central Committee, and, if any such exist, that a copy be supplied for the use of this Section.—Carried.

The following series of resolutions was introduced by Mr. McAllister :

1.—That in the opinion of this section, extended experience in successful teaching should be recognized as an important element in granting first and second class certificates.

2.—That Candidates for the grades of both first and second class certificates should be allowed the option of taking up the whole of the subjects at one examination, or of dividing them into the work of two subsequent examinations—if they take up the whole at one examination and fail, they should be required to be examined the next year in those subjects only in which they failed.

3.—That means of appeal for first class Candidates should be provided as in the case of second and third class Candidates.

4.—That the Central Committee should be required to assign the limits for each class of Candidates at the Commencement of each year, and to indicate, as far as it can, the means to be used in the preparation of the various subjects of examination, for the guidance of the Candidates who have not the opportunity of attending a Normal School.

5.—That the Central Committee should be required to adopt some effectual means to prevent the recurrence of such

serious errors as the papers at recent and previous examinations, and which have caused serious inconvenience and loss to many Candidates.

The discussion on the above was participated in by Messrs. Alexander, Dickenson, McKellar, Osborne, Sudaby, and others. The greater part of the session was spent upon them, and on being voted on, (seriatim) were carried. Mr. McAllister being requested to present them before the general Association at the afternoon session, immediately following Mr. Lewis' paper on the "Examination of Public School Teachers."

Mr. Dickenson moved, seconded by Mr. McAllister,

That the Summer Vacation for Public schools be the same as that for High Schools.—Carried.

On motion the Secretary was requested to ascertain and have it announced at the afternoon Session, whether Mr. Kirkland would be able to take up the subject assigned him at our next Session.—Carried.

Section adjourned.

Thursday, August 10th, 1876.

Second Session of P. S. Section opened in the usual form by the Chairman, Mr. McQueen.

Minutes read and confirmed after slight amendment.

Mr. Dickenson reported that on making enquiry at the Department, no instructions or regulations for the guidance of the Central Committee are in existence.

Mr. Moran moved, seconded by Mr Moir,

That the Secretary be instructed and empowered to put himself in communication with local Associations with a view (1) to getting them to work in connection with this, (2) to securing names of Officers, times of Meeting, Rules, Subjects discussed and the results arrived at in their Meetings and that managing Committee be instructed to submit all the questions to be discussed in the General Association and the various sections to the Local Associations throughout the Country, at least four months previous to the Meeting of this Association, and that the Local Associations be requested to send delegates to the Annual Convention, to represent their views or the subjects set

forth in the programme, or any other that such delegates may bring before the Convention. After remarks upon the above by the mover and seconder, also by Messrs. Johnston, McAllister, Dickenson, Campbell and Alexander, the motion was put to the Meeting and—Carried.

Mr. Dickenson then moved, seconded by Mr. McKellar,

That Public School Masters and Teachers be granted similar representation on the Central Committee, as they formerly had on the Council of Public Instruction.

The motion was supported briefly by the mover and seconder, Messrs. Moran and Johnston. Messrs. Alexander, McArdle and McAllister opposed the motion. On a vote being taken the motion was lost.

The Election of Officers for the Ensuing year was then proceeded with and resulted as follows :—

R. Alexander, of Galt, Chairman.

H. Dickenson, of Newmarket, Secretary.

<i>Executive Committee.</i>	{	Mr. Clarke, of Toronto.
		“ Dearness, of London.
		“ Moran, of Stratford.
		“ Johnston, of Cobourg.
		“ Dickenson, (the Secretary.)

Mr. Alexander, moved, seconded by Mr. Johnston, that a vote of thanks be tendered to Mr. McQueen, for the able manner in which he discharged the duties of Chairman of the section. The resolution was briefly supported by Mr. McAllister, and—Carried.

Moved by Mr. McAllister, seconded by Mr. Moran, that a hearty vote of thanks be also passed to the Secretary for the efficient manner in which he had discharged his duties.—Carried.

Messrs. McQueen and Dickenson responded.

Moved by J. Campbell, seconded by Mr. Johnston.

That in the opinion of this section it is desirable that the distribution of the Superannuation Fund be according to a certain Classification, so that each Teacher incapacitated or retiring from the Profession after teaching twenty-one years, may receive a proportionate amount to that paid in annually.

After the discussion had been continued for some time by the mover and seconder, Messrs. McQueen and Osborne, it was suggested that the further discussion be postponed, and that if time permit the matter be brought up in the General Association.

The Secretary reported that owing to Mr. Kirkland's, absence from town and the illness of Mr. Hughes' Child, both those gentlemen were unable to fulfil their appointments with this section. Section finally adjourned.

H. DICKENSON, *Secretary.*

PUBLIC SCHOOL INSPECTORS' ROOM.

Educational Department.

August 9th, 1876.

In the absence of the Chairman and Secretary, Messrs. Macallum and MacKintosh were appointed to fill these positions *pro tempore*.

The subject of School Registers was taken up.

A form of Register and Class Book, used in the County of Wentworth, and the form of Daily Register in use in the Schools of Hamilton, were laid before the section by Messrs. Smith and Macallum. At the request of the section Mr. Smith, gave full explanations in regard to his "Forms."

After an informal discussion it was in motion resolved to consider the form of General Register issued by the Department of Education in detail—column by column.

An animated discussion ensued in which the following gentlemen took part, viz: Messrs. Dr. Wadsworth, Knight, Dearness, Little, Harrison, Scarlett, Macallum, MacKintosh, McKinnon, Carlyle, Brown.

August 10th, 1876.

The section met at the usual time and place.

The minutes of the previous meeting were read and confirmed.

The consideration of the General Register was resumed and after further discussion the subjoined specimen sheet of a General Register was adopted.

Register Number.		65
Pupil's Name.		John Jones.
Date of Birth.		1860
Parent's Name.		Absalom Jones.
Residence.		
Date of Admission to School.		1875
ADMISSION AND PROMOTION.	I	First Reader. Part I.
	II	Second Reader. Part II.
	III	Second Reader.
	IV	
	V	
	VI	
ATTENDANCE (from Half-yearly Reports) AND TEACHER'S NAME. <i>(Teacher's Name to be placed below this, vertically.)</i>		187....
		187....
		187....
		187....
		187....
		187....
	1st half.	John Squeers.
	2nd half.	John Squeers.
	1st half.	Jas. Sampson.
	2nd half.	Jno. Currie.
	1st half.
	2nd half.
	1st half.
	2nd half.
	1st half.
	2nd half.
London. Apprenticed to a Printer.		General Remarks, showing destination on leaving School, Occupation, &c.

It was also resolved, (1) that the General Register of School Population, as formed on the last page of the Departmental General Register, should be retained, but that the date of birth should be substituted for the age; and (2) that all School Registers should be manufactured of good paper, be strongly bound with boards, and provided by the Department of Education, free of charge, to Inspectors for distribution.

The daily Register at present in use in Public Schools, was then taken up for consideration, but, after some discussion it was resolved to postpone any action in regard to it until the meeting of the section in 1877.

The following were elected Officers of the section for the ensuing year, viz: J. H. Smith, Inspector of Wentworth, Chairman; W. MacKintosh, Inspector of N. Hastings, Secretary.

Executive Committee:—D. J. McKinnon, Inspector of Peel; A. Macallum, Inspector of Hamilton; J. H. Knight, Inspector of East Victoria; Hugh J. Strang, Principal, Goderich High School, and the Chairman of the section *ex officio*.

A discussion followed on the blank form provided by the Department for Rural School Trustees' Annual Reports.

The following Gentlemen took part in the discussion during the session:—Messrs. Slack, (Lanark), Smith, (Wentworth), Dr. Wadsworth (Norfolk), Dearness (Middlesex), Knight (Victoria), Mackintosh (N. Hastings), Dr. Agnew (Frontenac), Little (Halton), McKinnon (Peel), Hodgson (York), Scarlett (Northumberland), Carlyle (Oxford), Brown (Peterborough), Henderson (Paris), Harrison (Kent), Dr. Kelly (Brant), Macallum (Hamilton).

Section adjourned until 9 a. m. Friday.

August, 11th, 1876.

Mr. Carlyle in the chair.

The minutes of the last meeting were read and confirmed.

The consideration of the blank form for Trustees' annual report was resumed, and after careful deliberation it was resolved to recommend a form differing in a number of its details from the departmental form.

The following are the changes recommended to be made, viz. (the columns referred to are those in the form *now* used) :

In columns 29 to 32 the words "with or without board" to be omitted ; 33, 34, 35 and 36 to be replaced by one column headed "Religious denomination of teachers;" in 45 and 46 the word "general" to be struck out ; 50, 51, 52, 53 and 54 to be struck out ; 61 to be replaced by two columns for "The number of resident children between the ages of 7 and 12, who have not attended any school," and "The number of resident children between 7 and 12 who have attended school less than 70 days;" 78, 79 and 80 to be replaced by one column for the "Number in geography;" 83 and 84 by one column for the "Number in grammar;" 87, 88 and 89 by one for "Number in history;" in 92 the word "collier" to be omitted ; 93 and 94 to be struck out ; an additional column to be inserted after 102 for answers to the question, "Are the Scriptures read in school?" It was further recommended that separate volumes be provided for the length and "breadth" of school house ; that 114 be headed, "How many rooms for recitation?" and that 122 be headed "How many privies?" The column for "Total number of maps in school" was recommended to be placed after that for "Number of other maps;" column 139 to be replaced by two columns headed "Are tablet lessons used?" and "Are object lessons taught?" respectively ; 149 to 154, both inclusive, to be struck ; in 160 the words "text books and" to be struck out ; in 163 the words "and merits cards used" to be omitted ; in 165 and 166 the words "and by whom delivered" to be omitted ; 168 to 176, both inclusive, to be struck out, and that a column be provided for the "Name of the teacher engaged for next year."

The forms provided for the Inspectors' "statistical" and "special" reports were taken into consideration, and after discussion the following resolutions were adopted *nem con.*

(1.) "That the columns of the Inspector's "annual statistical" report should be sufficiently wide to receive easily the numbers to be placed in them, and should correspond exactly in numbering and order with the columns of the Trustees' annual report, all columns in the Inspector's report

asking for information not required in the Trustees' annual reports to be placed at the end of the former, so as to facilitate the labour of copying the latter."

(2.) "That the time at which Inspectors' 'statistical' and 'special' reports are required to be forwarded to the Minister of Education should be changed from the 1st of February to the 1st of May, so that Inspectors may be able to avail themselves of the facilities for traveling which are usually afforded in the winter months, and devote themselves to the labour of compiling these reports, when the roads are broken up in the Spring."

(3.) "That while, as Inspectors, we are anxious to discharge thoroughly the duty of supplying the Department of Education with the results of our official visits, we would respectfully state that, in our opinion, the form for the Inspector's "detailed report" should be materially modified with a view to its abbreviation, such modifications not to affect the necessary requirements of the Department."

(4.) That Messrs. Carlyle, Hodgson and Wadsworth be and are hereby appointed a committee to confer with the Minister of Education with reference to all resolutions adopted by the Section at its present meeting."

The following gentlemen took part in the discussions during the day, viz: Messrs. Brown, McKinnon, Dr. Wadsworth, Harrison, Mackintosh, Carlyle, Dr. Agnew, Scarlett, Dearness and Hodgson.

Meeting closed at 1 p. m.

W. MACKINTOSH,
Secretary.

HIGH SCHOOL MASTERS' ROOM,
Education Department,

August 9, 1876.

The High School Section met this morning at half-past nine o'clock.

The meeting having been called to order,

It was moved by Mr. Seath, and seconded by Mr. McMurchy,

That Mr. Sullivan act as Chairman of the Section.—Carried.

Moved by Mr. Seath, seconded by Mr. Miller,
That Mr. Strang act as Secretary.—Carried.

Mr. McGregor brought up the question of the assimilation of the matriculation examinations for the various universities and professions. Mr. Anderson having stated that the Chairman of the Committee appointed last year to act in the matter would be prepared to report before the adjournment of the Section, the matter was allowed to stand over.

Mr. Dawson took up the subject of "Intermediate Examination." A discussion followed which was participated in by Messrs. Miller, Seath, Strang, McMurchy, Connor, Grant, Crowle, Tamblyn, Whighman, McGregor, Spotton and Rathwell. The discussion was brought to a close by Mr. Dawson,

Who moved, seconded by Mr. Rathwell,

That a Committee consisting of Messrs. Seath, Strang, Miller, McMurchy, and the mover, be appointed to draw up a series of resolution on the subject of Intermediate Examinations, and report at the meeting of the section to-morrow Thursday morning.—Carried.

The section then adjourned to meet again to-morrow morning at 8 o'clock.

August 10th, 1876.

The section met again this morning at half past eight o'clock. In the absence of the Secretary who was engaged with the Committee appointed to consider the question of Intermediate Examinations, Mr. W. B. Harvey was appointed temporary Secretary.

The minutes of yesterday's meeting were read and confirmed.

Mr. Purslow, then took up the subject of "High School Programmes," and a discussion followed which was participated in by several members.

It was finally moved by Mr. Strang, seconded by Mr. Spotton.

That in the opinion of this section, it is desirable that before any changes in the University Matriculation, Examination is made, in future a draft of the proposed changes should be sent to each Head Master, in order to obtain an expression of opinion on these changes; and that a copy of this Resolution be forwarded to our Representative on the University Senate.—Carried.

The Secretary then presented the report of the Committee appointed to consider the question of Intermediate Examinations. The four resolutions submitted in the Report having been discussed, and voted upon Seriatim, were all adopted either unanimously or by very large majorities.

The report was as follows.

The Committee appointed to consider the question of Intermediate Examinations, beg leave to report

That in the opinion of the High School Section, it is desirable,

1.—That having passed the Intermediate Examinations, shall be considered as equivalent to having passed the Junior pass Matriculation Examination of the University, the Examination for a teacher's certificate, and the preliminary Examinations of the Law Society and Medical Council, with such modifications for such examination as may be deemed necessary.

2.—That pupils who have passed the matriculation Examination of the Universities, or the Examination for 2nd class certificates, shall be considered as having passed the Intermediate Examination next preceeding.

3.—That the masters be furnished with full information regarding the result of the examination of each pupil in each subject.

4.—That the test subjects for the Intermediate Examinations be grouped in the following manner: (1) Algebra, Arithmetic and Euclid. (2) English Grammar, Composition and Dictation. (3) History, Geography and English Literature. And that Candidates who obtain 40 per cent of the total in each group, and not less than 20 per cent. in each subject, shall be considered as having passed the Examination.

Some discussion then took place in regard to the fixed Grant and High Schools; and it was

Moved by Mr. Dawson, seconded by Mr. Tamblyn,

That, in the opinion of this section, the fixed Grant of \$400 for each High School should be increased to \$500, without however, reducing the amount distributed in other ways for High School purposes.—Carried unanimously.

Moved by Mr. Strang, seconded by Mr. Connor,

That a Committee consisting of Messrs. Seath, McMurchy, Dawson, Purslow, Miller and Crowle, be appointed to consider the best means of giving effect to the foregoing resolutions, and to take such action, in the name of the Section, as they may think proper.—Carried.

Moved by Mr. McGregor, seconded by Mr. Connor,

That the Executive Committee of the H. S. Section for the ensuing year consist of Messrs. McMurchy, Purslow, Dawson, Strang and Dr. Comfort.—Carried.

Mr. McMurchy then, on behalf of the Committee appointed for that purpose, reported, orally, what had been done towards securing assimilation of the Entrance Examinations for the various Universities and learned professions.

The Section then adjourned at noon.

PAPERS READ

BEFORE THE ONTARIO ASSOCIATION

FOR THE ADVANCEMENT OF EDUCATION.

PRESIDENT'S ADDRESS.

To the Teachers' Association of Ontario:

MY DEAR FRIENDS—Necessary absence from the country will prevent me from fulfilling the duties of the office to which you last year did me the honor to elect me as your President.

I need not say that I feel an unabated interest in the great work in which you are engaged, and in your own success and prosperity.

In my personal absence, I append a copy of a paper which I prepared and had published on my retirement from office, a few months since—addressed to the Inspectors and Teachers of High and Public Schools. I can add little to what I have said in that address, except to express my lively interest in your proceedings, and deep sympathy with and earnest prayer for your individual and collective welfare and happiness. I remain as ever

Your faithful friend and servant,

E. RYERSON.

To the Inspectors and Teachers of High and Public Schools :

In addressing to you a few words on the termination of my long official connection with you, I cannot address you wholly as *gentlemen* (as I have done Municipal Councils and School Trustees), since of the 5,736 teachers employed in the public schools, 3,135 of the male females. I address you as friends and colleagues—having been myself a grammar school teacher two years before I commenced my public life.

(*Elevation of the Profession.*)—In devising a system of public instruction for our country, the first thing needful was to exalt the office of the teacher. To do this two things were necessary: first, to elevate the qualifications and character of teachers; secondly, to provide better and more certain remuneration for their services. I need not say, what so many of you know, how low, a generation since, were the qualifications of by far the greater number of teachers, and how lower still was their moral character, and how poor and uncertain was their remuneration, and how wretched the places in which they taught. There were noble exceptions in all these respects—but they were exceptions to the general prevalence of ignorance, vice and neglect. Of course much allowance is to be made on account of the infancy of the country, and the sparseness and penury of its hard-working inhabitants. But all the old inhabitants will bear witness that the state and character of the schools and teachers were such as I have indicated.

(*Normal School's, Teacher's Remuneration.*)—To improve the qualifications and character of the teachers two things were requisite—a school for the training of teachers, and competent Boards to examine and license them, making good moral character one element of qualification. A normal school trained and could train but a small proportion of the public school teachers; but it has furnished examples and given a standard for qualifications of teachers and of teaching, the influence of which has been felt in every part of the country. With the improved qualifications and character of teachers, naturally followed their better remuneration; and to aid in promoting and rendering this more certain, the laws were improved, investing trustees with larger powers and securing to teachers the prompt and certain payment of their salaries. Though there is still much room for improvement, a contrast, rather than comparison, may be instituted between the qualifications, character, remuneration, social position and place of labour of the teacher of the present day and the teacher of thirty years ago.

(*County Boards—Improved status of the Teacher's Profession.*)—For several years after the establishment of County Boards of Public Instruction for examining and licensing teachers, it was complained teachers were subject to examination by Boards, the members of which were not teachers themselves, and many of them incompetent for the office. That just ground of complaint has been removed by the qualifications of members of Examining Boards being prescribed by law, and none being eligible for the office except graduates of some English or Canadian University, with testimonial of experience as a teacher, and teachers holding Provincial life first-class certificates. Another just ground of complaint remained, namely, that the schools were superintended by persons who had not been teachers, and were not qualified for the work. *Now*, no person is eligible to be a public

school inspector who does not hold a certificate from the Educational Department of the highest grade of the highest class in his profession. Thus is the profession of the public school teacher placed upon the same footing as the professions of law and medicine. It now only remains that the school text-books (the copyright of which is public property, under the control of the Education Department) be subject as occasion may require, to the revision by select members of the teaching profession, and by them only.

(*Superannuation of Teachers.*)—The heart almost recoils at the recollection of years of varied and often discouraging toil required to overcome the prejudices and obstacles in order thus to elevate the teacher's profession to its true standard of competence, dignity and performance, and you are all aware of the storm of opposition which was raised against the last and most humane step taken to give increased value and stability to the teachers' profession by providing for the relief of its aged and disabled members—a provision now universally popular within and without the profession. In 1853 the Legislature was with difficulty induced to grant \$2,000 a year, which was afterwards increased to \$4,000 and then \$6,000, in aid of superannuated and worn-out public school teachers. High school teachers are now included, and the Legislative grant for the last year reported (1874) was \$23,100, nearly one-half of which was contributed by the profession itself.

(*Salaries of Teachers.*)—I am aware that the remuneration of the profession is not yet what it ought to be. It should be the aim of every teacher to add to the value of the profession and its labours by good conduct, diligence and increased knowledge and skill; and the experience of the past shows that the country will not be slow to increase the remuneration of labours thus rendered increasingly valuable; for while the amount of salaries paid to 2,706 public school teachers in 1844 was \$206,856, the amount of salaries paid to 5,736 public school teachers in 1874 was \$1,647,750. It is gratifying to reflect that whatever sums are provided and expended for any educational purposes are all expended in the country, and therefore do not impoverish it in any respect, but tend to enrich it in the highest respect and in various ways.

(*The High Schools.*)—In regard to High Schools, formerly called Grammar Schools, the law for their improvement and their administration by the Education Department dates back to only 1852, at which time their number was eighty-four, the number of their pupils 2,643, and the Legislative grant in their aid was \$20,567; in 1874 there were 108 High Schools, 7,841 pupils, and the Legislative grant in their aid was \$75,553, in addition to which a sum equal to half that amount was required to be raised by County and City Councils, all of which to be sacred for the payment of salaries of masters and teachers; and corporate powers in Boards of Trustees to provide additional means for the payment of teachers, and the erection, repairs and furnishing of buildings. In 1852 there were no Inspectors of High Schools; now there are three very able and efficient High School Inspectors. In 1852 the whole amount of salaries paid High School teachers was \$38,533; in 1874 the amount of salaries paid High School teachers was \$179,946. The improvements in the operations and efficiency of the High Schools have, I believe, kept pace with their finan-

cial and material improvements. In no part of our school system have more opposition and buffetings been encountered than in effecting these changes and improvements.

(*The New Minister.*)—In terminating my connection with the Inspectors and teachers of High and Public Schools, I feel that, with all the defects and mistakes of my administration—and no one can be more deeply conscious of them than myself—I have, under very many difficulties, rendered you the best service in my power. In my retirement and advanced years I shall feel unabated interest in your success and happiness, while I shall enjoy the satisfaction of knowing that the honourable gentleman who succeeds me, with the rank and title of Minister of Education, is animated with the warmest zeal, and possesses much higher qualifications and greater power than I have been able to command, to advance your interests and promote the sound and universal education of our beloved country.

Your faithful friend and servant,

(Signed)

E. RYERSON.

TORONTO, March 2nd, 1876.

THE EXAMINATION OF PUBLIC SCHOOL TEACHERS.

BY RICHARD LEWIS, ESQ., TORONTO.

I propose to direct the attention of this convention to the following points, as bearing on the examination of public school teachers:

- 1.—The principle upon which certificates are now granted.
- 2.—The subjects of examination, especially for the award of the first class certificate.
- 3.—Suggestions as to alterations and remedies.

There is no question as to the necessity for the examination of public school teachers. The importance of the duties to be discharged demands fitness for the office, and the certificate granted by an authorized educational body gives the best evidence to the country that the teacher receiving that certificate possesses the proper qualifications. The difficulty, however lies in deciding what are the necessary qualifications. If the limited demands of the public school were made the standard and measure of the educational attainments of the teacher, there would be no difficulty in the question. In view of the extensive character of the work, and of the number to be educated—the masses of the people who are destined to follow industrial pursuits—more than what is called elementary education, will always be impracticable if not unnecessary. The subjects on the programme for the public schools of this Province are, in this view, ample and liberal; and already it is becoming a serious question whether we have not gone too far in this direction, whether, in our ambition to secure too much we are not losing our hold of the solid and the essential. A similar error was committed by the friends of public education in England

when, in 1846, the programme of studies was issued; and it was not until the Royal Commissioners had given their report, many years afterwards, in which they announced that in the schools under inspection more than three-fourths of the pupils left the schools destitute of the commonest elementary education; that the government lowered and narrowed the programme, wisely regarding thoroughness and excellence in the essential elements of education as more important beyond measure than the ambitious attempts which had so signally failed.

The qualifications of the teacher must embrace all that is demanded by the programme; and if the only reward open to the successful teacher, the office of inspector is to be still secured to him, he must possess those qualities of mind which general culture only can give. In those pursuits which we rank as the professions, this general culture is supposed to be secured by a University education. It should, however, be remembered that mere scholarly attainments are no security for professional success; and that evidences of large culture and ability mark the character of probably as many, especially if literature shall be regarded as a profession, who have never had the advantage of a University course as of those who have reaped its highest honors. When we select our medical or legal advisers, or our spiritual instructors, we never ask the question, what are their scholarly attainments—what degree have they won in collegiate studies? We ask do they understand their business, and we know that skill and ability in the work of their profession may or may not have been aided by collegiate studies, but must be the fruit of natural ability and experience. There is no intention here to disparage the importance of a collegiate course. All the mental discipline which that course secures prepares the student for his professional pursuits; though the subjects of scholastic study may never be required in the active work of life. In this regard, as a process of mental discipline, when the world shall come to understand the deep import of education—that to train and educate a human being and to cultivate the highest and holiest principles in the mind are duties pregnant with responsibilities and difficulties; that discipline may be regarded as necessary for the public school teacher as for the medical man, the lawyer or the clergyman. But when the public shall think fit to demand that preparatory culture in the public school teacher, it will no doubt attach the honors and emoluments to the office which shall induce young men and young women to pass through such a preparatory course. While other professions offer far higher rewards and hold a higher rank in society than that of the public school teacher, policy and justice unite to condemn a system which would raise the standard of attainments to that of the lucrative professions, but would allow the honors and emoluments to be so much below them.

The award of certificates at present is based on the principle that *attainments* constitute all that is necessary to professional excellence. Experience and skill in the work of education count for nothing. Education, it is true, forms one of some eighteen or twenty subjects, and ranks below more than half of them. But supposing a higher value were attached to it, as a mere subject of examination it only gives evidence of theoretical—of book knowledge. That practical skill of experience, which secures the highest honors and emoluments in other professions, is utterly

disregarded in that award of certificates which gives one teacher distinction over another, and which, in the award of the highest class of certificates, opens up to him the highest offices of his profession, and therefore supposes he is distinguished for skill and experience. The tendency of the present method of awarding certificates is practically to discourage professional skill, as it only demands intellectual attainments. I do not for a moment disparage the importance of attainments; but while the education of the public school teacher and public school inspector should be fully equal to the direct demands of the office, and while all liberal culture will tend to raise at once the man and the profession, the final object is the development of skill in teaching and in school management, and for all this in the award of certificates no provision is made, and the school system of Ontario refuses its highest reward to its best laborers.

THE CLASSES OF COMPETITORS.

The competitors for these certificates may be divided into two classes. One class consists of the students in Normal schools—young men and young women who probably have had no previous experience in the practical work of the school room, many of whom will continue only a brief period in the profession, some of whom no doubt intend to make that profession and the education they are receiving at the public expense a stepping stone to a better position, and none of whom can possibly be animated by the zeal and the spirit of the experienced and actual worker. There is nothing in the present system of examination to create that zeal, to sustain that spirit; and it is impossible for the students in the pressure of study and the imperfect practice allowed in the model school to train themselves for the actual labors of the school room, where they shall have no guides but their own judgment and ability. There is, however, especially to those who intend to make the profession the business of life, every inducement and every advantage to study. Successful study wins for them the highest honors of the profession, and if they accomplish that object they may enter upon their duties assured that if they possess the popular arts by which the votes of County and City Boards are won they may ultimately attain the higher office open to them. Thus from the beginning to the end of the enterprise, intellectual attainments only are necessary to success.

The second class consists of the practical teachers engaged in the actual work of the school room. Such workers when animated by the true spirit of their profession cannot fail, even without the aid of a Normal school, to become more or less skillful laborers. When their labors are successful, when their schools become distinguished for excellence of instruction and management, in that very success they give the highest evidence of personal improvement. No teacher can keep up with the demands of the times and with the competition around him without constant study. His mind must advance with the progress of the age, and it does advance. While many a holder of the Provincial certificate rests upon his laurels and considers that he has "finished" his education, there are uncertificated teachers who, in all that is requisite for successful school management and in that general culture which comes from constant study, reading and observation, are in no way inferior to the favored holders of the

highest certificates. I do not urge this in any respect as a plea for the exemption of this class from examination. The class I am describing are doubtless the most anxious to secure the highest degrees of honor awarded to their profession, and the numerous candidates engaged in actual work, who present themselves for examination, give evidence how earnest is the desire amongst the best uncertificated teachers of the Province to secure the legal sanction. They devote their leisure time to the studies necessary to success; but they are not supported and cheered with the satisfaction that the knowledge and experience which have made them distinguished in their profession shall be of any avail. The more they neglect their school duties the more they can devote themselves to study, and the nearer they are to success in the examination for a certificate. Thus again we see the principle of awarding certificates only encourages the acquisition of technical knowledge. It gives no value to that general and often higher culture which the ardent mind derives from intercourse with books and with men, and from the efforts of its own promptings and aspirations; it gives no value to professional skill and experience, and finally it shows no regard for the difficulties of the candidates who have been studying under the pressures of professional labors, for it makes no distinction between the Normal school student and the working teacher.

THE PROGRAMME OF EXAMINATION.

There is no doubt that great dissatisfaction exists amongst a large number of the Public School Teachers, and there is no reason to believe that the dissatisfaction proceeds amongst the Normal School Students, with the Programme of Examination. It is of very great importance as a question both of policy and of justice, that the character of that programme should be fully discussed by this Convention. The Board of Examiners, the awarders of the certificates, constitute so far as the Teachers are concerned, a very irresponsible and autocratic body, against whose decision there lies no appeal. That Board possesses and exercises the power of raising the standard to any extent, upon the subjects of examination. There is no limit to the exercise of that power. It may be raised with the view, at once, of raising the character of education in the Public Schools, and as a consequence the professional and social standing of the Teacher; or, it may be raised with the view of virtually closing the office of Inspector against all who have not passed through a University course. It is very natural for the Public School Teachers to be jealous and suspicious on this ground. That feature of the new School Law when it was first announced, which opened and almost secured to the school teacher the office of Inspector, gave the deepest satisfaction. It was not only felt to be a just reward for fidelity and success in professional work, but, to those who understand the matter best, it gave promise of the best fruits in the new educational system. It is only reasonable to believe that they who practically understand the nature of a business are the best fitted to overlook and superintend its operations; and, as far as the experiment has been tried, the country has no reason to regret this act of justice to its faithful and qualified teachers. Ontario stands alone in this act of justice to the Teacher. In other countries, without any good reason but that the office is well paid, honorable, and probably where best paid, the least laborious was, it is still monopolized by

a class which can secure to its favorites, the University Education. The Teachers of the Province see signs of a similar feeling here ; and, when they know that the Board of Examiners consists largely of men who have passed through this University Course, they have some reason to fear and suspect its influence, however unjust their fears may be.

SUBJECTS OF EXAMINATION.

I first ask the attention of the Convention to the subjects of examination and the values attached to them in the competition for the First-Class Certificates. If I present them the form of Language, Art and Science, I find that for English Language and Literature 425 marks are given ; that Art, represented by Drawing and Music, secures 150 marks ; while Science, in which I include Arithmetic, Algebra, Geometry, Natural Philosophy, Chemistry, Chemical Physics, Human Physiology, Natural History, Botany and Agriculture, receives 1575 marks. For Mathematics more than one-third of the total number are given. Evidently Mathematics stood pre-eminently high, and English pre-eminently low. No doubt the scientific subjects, exclusive of Mathematics, are important, but it is a question whether these subjects can all be retained in the Public School programme. It is certain that the distinction given to Mathematics and Science in the examination is not in accordance with the necessities of the Public School itself. I have no intention to make any comparison between the abstract value of these studies. I only consider them in their relations to the Public Schools and the public school Teacher ; and in their influence upon the character of the pupils and the culture of the teacher. It is generally admitted that the native language, literary composition in its broadest and highest sense, with something of a critical and historical knowledge of English Literature, together with Drawing and Music are more important and advantageous in their influence upon the character and pursuits of the common people than Mathematical Studies ; yet for all these subjects only 575 marks are given, while Arithmetic, Mensuration, Algebra, Euclid and Natural Philosophy receive 1000. It is most important that the Inspectors should be educated not only up to the highest demands of the Public School ; but to the special relations they have with the people. They are the highest representatives of popular education, and as its interpreters and supervisors they should possess these qualifications of culture, manners and judgment which would give influence and dignity to their work ; while in their intercourse with the teachers, they ought to present examples of refinement and general intelligence which would secure the confidence and respect of the profession. Now, while general science enlarges, language and literature and art soften and refine the mind. But, while you make such ample provision for the studies which are supposed to strengthen, you almost leave out of sight those which elevate and refine ; and a teacher having the necessary Mathematical qualifications might attain the highest prize of his profession, though he should be deficient in that knowledge by which language can be made an instrument of power, and destitute of that culture which educated taste and general intelligence secure. I admit that the end in view is the public good, and that all other considerations must be made subordinate to that end. But, here the claims of taste, as developed by the study of Art, and

especially of Language and Literature, are paramount. Our Schools are spreading the power and stimulating the taste to read. Are they with equal diligence and care directing that taste into the right channels? The love of fiction and of poetry is universal—it is the passion of children. Sabbath Schools and the religious world endeavour to satisfy that passion and to divert it from the grosser fiction and poetry that tempt the young on every side, with a special literature of their own. But, literature made to order with a special moral or religious purpose is never very successful; and dime novels are always more popular than the manufactured biographies and tales of good children which the churches so liberally distribute. Every school teacher knows how the craving for the lowest literature of fiction baffles every effort to prevent it; and the history of crime, and the mental characteristics of the young give often the saddest evidence that this species of fiction, which is so much in favor, corrupts and weakens the mind and perverts all just views of life. I believe that the cultivation of a healthy taste for reading is possible, and if the same ability were shown and care taken by the intelligent teacher to interpret a play of Shakspeare, or "Paradise Lost," or a fiction of Scott, or the story of "Little Nell," that is now taken to solve a mathematical problem or explain the laws of chemical compounds, you would satisfy and direct into right channels this natural craving of the imagination, and lay the foundations of a taste which in after life would become a source of the purest gratification, and form the safest barrier against the temptations of sensuality and vice.

Well, what provision in the education of the Teacher does the standard of examination or do our Normal Schools make for cultivating this healthy taste for reading? How many of the Teachers holding the highest class of Provincial Certificates are familiar with the literature of our Country, as they are with Arithmetic or the higher Mathematics? Before the last current year of examination studies, it was considered enough if the highest class of Teachers would tell us in whose reign Chaucer or Shakspeare lived, and who was the author of *Paradise Lost*. An essay on Human Understanding. As Thomas Fuller puts it "they only trailed in the tables and contents of authors of consequence"; they learnt the titles of books, as "city cheaters learnt the names of country gentlemen that they might brag of their acquaintance." The programme of last year led us to understand that English and Literature were to take their rank in the examination of teachers. I cannot speak of the papers; but, when we learn that only 100 marks were assigned to Literature, and only 75 to Literary Composition, which, probably more than other study, gives evidence of culture; while for each of the four Mathematical subjects 250 marks were given, the views of the Board of Examiners, and the place that a high taste for reading are to have in the Public Schools of Ontario can easily be determined.

I am not prepared to examine the quality of the questions for examination, especially in the highest grades. The School Act defined and limited the subjects as far as an act of parliament could; but it did not define and limit the character of the questions. It is manifest that an irresponsible Board of Examiners may defeat the purpose of the Act, by making the questions too easy or too difficult. Constituted, as the present

Board is, chiefly of a class separated by pursuits and previous studies from the great body of School Teachers, they will probably view the duties of their office from their own stand-point, rather than from the circumstances and necessities of the public school. The Teacher of the Collegiate Institute no doubt regards the Public School as subordinate to and preparatory for his own special work and studies; and studies which do not directly bear upon the Collegiate course he regards with indifference. Thus very recently a High School Teacher, in a newspaper letter proposed that for Candidates for the higher Certificates, English Literature might, with advantage, be substituted for Music and Drawing. While in a Collegiate course English Literature may be regarded as optional and of very subordinate importance compared with Classics and Mathematics, if I am right in the estimate I place upon that study, there is an imperative demand for its introduction into the course of the Public School; and as it might really take the place and standing of Classics in the education of the Public School teacher, it might and ought to be made one of the subjects of examination for the Second-Class Certificates. The writer of the letter from his stand-point views Music and Drawing as unnecessary. These subjects no doubt are of no importance in the preparation for University distinctions; but, the best and wisest friends of popular education plan Music, because it refines the mind and is associated with so much that is human and exalted, and holy in our nature, and drawing because it not only cultivates taste but is indispensable to the manufacturing and commercial prosperity of a Country, amongst the most important and necessary branches of Public School Studies.

The design of the Public School is not to prepare for the Collegiate Institute. The great body of its pupils will never enter the Collegiate Institute. They leave the Public School at once for the business of life; and although its course of instruction can never complete their education, it ought to send to them out into the world with the best culture for the sphere they are likely to occupy, and the best discipline for life which can be supplied. They leave the school for the mechanic's workshop, and the farm, for the manufactory and the countinghouse. Whatever is necessary for those positions should be in the programme of their education, and whatever room may be spared for subjects outside of industrial demands, ought to have reference to their duties as citizens and as moral agents, not to any possibilities of University education or professional life. There are studies considered necessary to professional life and the higher education which should have no place in the programme of the Public School, and therefore are not necessary to the Public School Teachers or their Inspectors; and there are studies, and there is a mental and moral discipline so necessary to the welfare of the masses, that to neglect them or make them only subordinate to the higher education of Colleges would be to defraud the people of their most sacred rights, and to inflict incalculable injury on the cause of National Education. In view of the tendencies to overlooking the necessities of the Public School, and of the possibility of preparing papers having a leaning towards that higher education which the University supplies, rather than to the development of a thorough Public School system, it is proposed that the Public School teachers should be more fully represented on the Central Committee, not only by

the appointment of Inspectors, but, also, of teachers holding the highest class of certificates. Whether suspicions as to the tendencies of the present Committee be just or not, the action of this amendment could not fail to have the best effect. The presence of men holding University degrees would be a security that the papers would be all that was necessary for sustaining a proper standard; while the addition of a just representation of the parties most deeply interested in the examination would be an assurance to the teachers of the country that no unnecessary difficulties would be placed in the way of proper ambition, and that the studies of the Public School would not be diverted to favor the views of a special class.

THE RECENT EXAMINATIONS.

The results of the recent Examinations, so far as they have been published cannot be regarded as satisfactory. We have had a very large increase in the lowest class of teachers. Of this class about fifty per cent have passed; but, of the second-class not more than 20 per cent and in many cases not more than 10 per cent have succeeded.

The results of the highest examination have been announced; ten competitors have been awarded First-Class Certificates. I cannot state how many candidates were present; but I see no cause to wonder why only two of the successful competitors were not Normal School students, when we understand the difficulties under which they must labor who are engaged in the exacting and harassing labors of School Teaching while they are preparing for this examination. The object then of raising the standard with the view of securing a higher order of teachers for the country is being defeated. The public estimate of national education is still low. It is satisfied with teachers destitute of experience and skill. It is an historical fact in educational reforms and progress, that governments are always ahead of the people, and wherever popular education has advanced it has been due to the wisdom and liberality of the rulers more than to the demands of the people. The immense preponderance of Third Class Teachers and the cheapness at which their services can be bought will drive out of demand a higher class of teachers, and the importance of adopting measures by which so great an evil can be stayed, presses itself upon the friends of education and demands immediate and decided action on the part of the government.

The object of encouraging candidates to compete for third-class certificates is, I suppose, to form a reserve from whence prepared teachers of a higher order shall be drawn. The reserve is however becoming the main force, and Boards of examiners are distracted by the difficulty, and passing all kinds of resolutions to amend the evil. Here there is evidence of the want of more centralization in the system; and as it is impossible for Boards of Examiners, scattered all over the Province, to act systematically and with unanimity, it is recommended by those who can be above and look beyond local influences and leanings, that the papers of the second-class, like those of the first, should be examined by the Central Board. This, however, will not diminish the preponderance now rapidly growing of Third-Class Teachers. Various suggestions have been made. It has been proposed to leave the power of awarding the Certificate in this

class to the Inspector, after the candidate has passed the examination ; and if skill in teaching has its proper claim, this, under the circumstances, ought to be imperative. Then it is proposed to raise the minimum of per centage on the papers ; a measure that might reduce the numbers very slightly, competing for the third-class certificates, but which would have no effect in preventing that class occupying our schools to the exclusion of a higher class. The third important suggestion is that Third-Class Certificates should not be renewed or if renewed that the second certificate should not be valid for more than one year.

The object of having a reserve of teachers preparing for the higher duties of the office is of the first importance. But the present method will certainly never accomplish that end. You still go on the wrong principle of regarding attainments as the highest and almost the only qualification of the teacher. If he has attended the Normal School he has had some instruction and a very small practice in methods of teaching, and may have caught some dim views of school management. If he has never had these advantages he may come to the examination with a few months experience in a small country school. But the guidance and example of an experienced and skilful teacher and an apprenticeship to the practical work and difficulties of School management are the only methods of training for the full demand of professional excellence. We want a system like that admirable one introduced into England, I believe, from Holland, where the economy of school management has been best developed,

THE PUPIL TEACHER

System, which apprentices well qualified boys and girls to the Head Master or the Head Mistress for a term of years : secures for them adequate instruction and daily training for their office ; completes their professional education in a Normal School strictly devoted to Public School development, not a Collegiate Institute which has other and quite different business to attend to, and then sends them to take charge of a school ; but, even then does not award the certificate until the candidate after ample experience has shown his or her capacity to manage the school.

We need measures also to induce or compel school authorities to employ a higher class of teachers. There is no doubt but that when once a locality had experienced the value of superior skill and attainments in the employment of a higher class of teachers it would never return to unskilfulness for the sake of cheapness.

ENCOURAGEMENT FOR THE PRACTICAL TEACHER.

But, while it is the interest and duty of the Country to secure the engagement of the best qualified teachers, it is clear in every view of the question, that the best facilities should be offered in the methods of examination to the working teacher, studying for advancement in his profession. This class has learnt the art of teaching by sheer experiment and when the experienced teacher has been guided by good sense, by an earnest desire to improve the school and to keep it up to the demands of the Country, you have the best evidence of skill and efficiency. Whatever

educational advantages the Normal School teacher may have secured, he has yet to learn the art of school management and teaching and can bear no comparison in that regard with the uncertificated teacher who has acquired skill by long experience. There should assuredly then in very policy, as well as fair play, be special arrangements for this class of teachers. There is no desire on the part of working teachers in the Country, to have a programme specially prepared for them, with all their disadvantages and with the pressure of heavy duties demanding their utmost energies. They are prepared to compete with the favored students of the Normal Schools for the higher class of certificates. But, it is suggested that a candidate for a second or first-class certificate should be permitted to divide his work into two years, or if he takes up the whole work the first year, and succeeds in some subjects, but fails in others, he should be required to pass the next year only in those subjects in which he has failed. As there can be no possible intention on the part of the education authorities to prefer Normal School Teachers; but, as they manifest a desire only to develop and encourage the best teaching powers of the Province, it is earnestly trusted that this proposal may have due consideration.

Again, the late Council of Public Instruction prescribed certain textbooks to be used in the preparation of most of the subjects. The advantages enjoyed by the Normal School students, might, very likely, make the fulfilment of this promise unnecessary; but, again, reminding you that there is a large class of working teachers bravely struggling to advance in their profession, this promise of the late Council was judicious and considerate, and calculated to aid, without any show of favor, that portion of the candidates who were denied the advantages of the Normal School. But, one of the candidates who sat at the last examination, whose experience and skill and devotedness to his profession ought to place him in its front ranks, thus wrote to me on the subject:—

"The examiners, have paid little attention to this promise of the late Council. The Chairman of the Central Committee confessed to me that it is difficult for persons of even good capacity to prepare Philosophy, to answer the questions, without the aid of a teacher. The examiner in Chemistry in answering last year's questions to me, found it necessary to quote from four authorities, to show that his answers were correct; and three of those authorities are not named in the list recommended by the Council."

I shall not say that in this regard the Central Committee has broken faith with the Teachers of the Province. But, I urge, that if it be the wish of the education authorities to retain in their Schools this important class of teachers who are at once faithfully discharging the duties of their office and endeavoured to raise themselves to its highest demands, they ought to insist upon a rigid observance of this promise. The managers of the middle-class examinations in England issue a carefully prepared list of text books, upon which the examination will be based, some months before it takes place; and, as the working school Teacher stands in a very similar position to that of the middle-class Candidates, that is he studies during the intervals of labor, he is fully entitled to the same consideration.

I have urged the importance of making experience and skill a very necessary qualification to securing a high certificate. It was found by N. S. Inspectors in England that many teachers holding high Certificates were often deficient in skill and power of management, and that many teachers who had only taken third-class Certificates proved the most skilful and showed the best results in the training of pupil teachers. In view of these facts, the facts the Committee of Council resolved, that when teachers who were distinguished for skill and management, should be promoted without further examination,—wisely and justly concluding that the teacher who could keep his school up to the mark and prepare his apprentices for the examination of the Inspectors, must necessarily, himself, have kept up and advanced in culture. From that period on the united recommendation of the School Committees and the Inspector, many teachers were gradually promoted from the lowest to the highest ranks of Certificates. There may be reasons for not adopting that method in this Country. But, assuredly, the principle of attaching the highest value to experience and skill ought to have a higher recognition than it has in the examination of teachers.

QUALIFICATIONS OF PUBLIC SCHOOL INSPECTOR.

Although I have occupied your attention so long, I cannot regard my task as completed without some reference to the tendencies in the direction of the examination for Inspectors. I have stated that when the School Act gave such evidence of supporting the paramount claims, the undoubted right of the qualified working teacher to that office, it gave deep satisfaction, and was an assurance to the teacher of the Province, that professional skill and experience were to take their just rank in all claims to distinction. I have also stated that amongst a large number of teachers there are strong fears and suspicions entertained that this prize shall be taken from them; that obstacles of such a kind shall be raised, as shall virtually exclude all practical teachers from being promoted to the office of Inspector. The character and method of the examinations of the highest Certificate, and the rapid and regular increase of difficulties in the questions give some evidence of the tendencies in that direction. The teachers of the Public Schools who have a correct estimate of their office, understand and admit that as the standard is raised the profession will rise. But, they feel, on the other hand, and none understand this better than the working teachers, that the highest success Public School education lies in the development of School management and the thorough instructions of the pupils in all that is essential to the instruction of the masses, rather than in the superior education of the teacher. They have no wish to evade all just demands of culture; but, there is an opinion spread, and it is suspected by a class that would wish to enjoy the prizes of the office, without passing through its drudgery, that those prizes ought to be confined to men who have had the advantages of a University course. A leading journal has more than once advanced these views, probably echoing the views of the monopolizing class, and by way of feelers. It has been stated very recently that the standard for Inspectors is too low. One paper expresses the opinion that the next generation of Public School Inspectors will be men of more extended experience and higher literary qualification than those of the present class and that there can be no doubt

as the standard of qualification for Inspectors has already been raised, and in order to make the necessary distinction between their qualification and those of Public School Teachers it will soon be requisite to raise it a little more. The time is evidently fast approaching when a University degree in Arts will be deemed indispensable, in addition to the possession of a first-class certificate. As these views involve such serious consequences to the present rank of teachers and throw doubt on the qualifications and efficiency of the present Public School Inspectors, their correctness claims the serious consideration of the convention. I maintain that there should be no "necessary distinction" between the qualifications of the Public School Inspector and the first-class of Public School teachers, than that of longer experience or superior skill. Whatever "literary qualifications" the Inspector needs ought to be possessed by the teacher. There are qualifications that all Inspectors should have, but what no culture can give, and which may be common with the teacher as the Inspector. They are those moral and mental attributes of character, those broad and sound views of life and of duty, and those deep and earnest sympathies, which, independent of all culture, give men distinction and the power and the right to guide and to rule. I have endeavored to show what are the essentials of Public School education, and in that regard the Inspector should possess all necessary qualifications. But, in that view also should the best class of teachers be qualified, and when so qualified with all the advantages of skill they have acquired a knowledge of their duties by experience, they are pre-eminently the best fitted for the superior office of supervision and guidance. Now carry out these views and you break forth with the whole body of teachers who have won the best certificates, and you discourage all who are aiming for those certificates. For what advantage in a social or financial point will he then have who holds the highest class certificate over him who holds the lowest? The people, especially in districts where intelligence is low, prefer a cheap teacher to a well qualified one. You, gentlemen, who hold the highest class will only enjoy an empty honor. The country is satisfied with teachers of lower attainments and you give warning to all future aspirants to consider if it would not be far wiser to acquire qualifications for success in other occupations. You may enter the profession of the ministry, of medicine, or of law without this university education; and may, as many before you have done, win affluence and rank in those professions. But, as school teachers, whatever ability you may have and whatever attainments, unless they agree with the curriculum of a university you shall never be promoted to the office which your country, in a momentary fit of justice and generosity of which it afterwards repented, promised should be the reward of your skill, your devotedness and your experience.

I cannot believe I am passing out of the limits assigned me in calling the attention of the convention to this subject. The knowledge that should constitute the qualification for the office of Inspector, had no doubt secured the fullest consideration of the framers of the School Law. They did not act under the impulse of mere generosity or justice—they acted on the suggestions of public expenditure and policy. No doubt they had the example of other countries, which have, by the difficulties of their qualification—their very costliness—succeeded in virtually closing the office from

the Public School teachers and securing it as a monopoly to a class favored by birth or wealth. But, as the powers of the Ontario School Act had invoked the best experience and the highest educational knowledge to make that act as complete as possible, legislating as far as they could for the future as well as the present necessities of the country, had they found it necessary to set a special standard that would require a special University Course in the preparation of the Inspector for his office, I have no doubt but that these conditions would have appeared in the act of Parliament. I am disposed to believe they took that view of a Public School education upon which I have based the arguments and opinions I have advanced, that they considered that education to embrace only what is necessary to the life of the common people to the life of manual labor and the industrial arts and to exclude very much of what is regarded as necessary to professional life. They intended the Public School to occupy one grand sphere of duties and the High School another; and while much of what is learnt in the Public School would be preparatory to the High School, there should be no perversion or sacrifice of its important duties to that end. They considered the standard necessary for the highest class of Public School teachers, and they wisely and justly concluded that standard sufficient for the higher office of Inspector. The standard was fixed with a view to the public good; but, we have reason to believe that the framers of the law, that the legislators of Ontario acted on principles of policy and justice, with a view to the future as well as the present educational prosperity of the country, that it was not only the best policy to select the Inspectors from the experienced, skillful and qualified workers,—that this policy would arouse and sustain new impulses to duty and a professional spirit which would in the highest degree be beneficial to the work of education; but, that it was an act of justice due to the Public School teacher, who, if he shewed himself qualified to satisfy all the demands of the school room, not only gave the best evidence of his fitness for the office of Inspector, but was the only one who had a right to that office.

In the spirit of that act, supported by that policy and that justice, I call upon the convention to maintain the claims of the Public School teacher, and I trust the country will be faithful to the conditions it laid down, and the hopes it created, and just to a class so zealously serving it, and so necessary to its present welfare and its future greatness.

THE HIGH SCHOOL SYSTEM.

BY JOHN SEATH, B. A.,

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When I selected as my subject to-day "The High School System," I had in view the fact that we should at this meeting be in a position to discuss intelligently, after a six month's trial of its operation, the probable effects on education generally of the new scheme to which our new High Schools are being subjected. Although High School masters are more

immediately interested in the question, and its salient features are to be discussed in their section, it is one which, on account of their relation to the Public Schools and the Universities, will naturally attract the attention of all classes of educationists. The matter is one, too, which, from its vital importance, may with advantage be considered from different stand-points. Those engaged in Public School work are in a position, as well as High School masters, to observe its effects, and apart from the interest all teachers naturally take in an educational experiment, the possibility of a similar course being adopted towards them will no doubt give the matter additional importance. In fact, by the annual reports of Public School Inspectors, we see that the grading system has been attempted in several counties, though as yet Government aid is given irrespectively of any classification. I propose, then, in the course of the following remarks, to discuss briefly what seem to me to be some of the tendencies in our High Schools; and, although it is in the critic's privilege to praise as well as blame, if I indulge in the latter more than in the former I hope it will not be attributed to my inappreciation of the rapid progress we have been making in education, but to a desire to provoke amongst the very men who have been mainly instrumental in effecting these improvements, that free expression of opinion which is the safeguard of our profession. I cannot hope that what I shall say will meet with general approval; many of my conclusions will no doubt be combatted; but I submit to you my observations during the past half-year as a contribution to the discussion of a problem which many besides myself regard as still unsolved.

I. Of all the relations of the High School, by far the most important is that it bears to the Public School. Hitherto the great source of trouble has been that in many localities the latter has been depleted to swell the attendance in the former. To meet this difficulty several schemes as you are aware have been devised. A year or so ago it was thought that a uniform entrance examination and more thorough and frequent High School inspection would effectually counteract this tendency; but, it was found that, though the plan was partially successful, the evil broke out with greater virulence than ever. After an unusually long period of incubation, a new scheme has been developed and this half-year put into effect—popularly known by the name of "Payment by Results." To use the words of the Inspectors' Report this experiment "*will* show the country what schools are really doing High School work and what nominally High School are doing only Public School work, and will ultimately force the latter to become what they profess to be or give away to more efficient Public Schools." I am inclined to believe that no one has been more astonished by the results of the "Intermediate" than the Inspectors themselves. I should be sorry to say, and I certainly do not believe that these results are to be taken as a safe criterion of the work the High Schools are doing; but no one will deny that of the 60 schools that passed none, and the 24 that passed from 1 to 2 each, there must be a considerable number that are doing elementary work. Besides, after this, unless a school has a reasonable prospect of passing four or five at this examination, there will be little inducement to run the risk of failure and incur the cost of the attempt. So that we are safe in saying that a very large number of the schools will be uninfluenced by the benefits said to

accrue from success of this examination; and, if the rest of the scheme be fairly carried out, the tendency will be to degrade rather than elevate their standing. In fact, as matters stand, the masters of some of the smaller High Schools have refused to do the work required for the Universities and the different learned societies of the Province.

It seems, then, to me that the longer this scheme is in operation the greater the tendency to develop two classes of schools with an occasional gradation form between—the High School proper, where the authorities will be able to maintain both an upper and lower school in a well organized condition; and the English High School, which in many localities will do mainly the work of the fifth and sixth classes, with occasionally modern languages and classics. Such a school as the latter will evidently be a necessity in places where there are a number of small Public Schools, the masters of which will not have the time at their disposal to take their senior pupils beyond the line which forms the lower limit of the High School. But in the larger towns and cities, where efficient fifth and sixth Public School classes may be maintained, there can be no possible excuse for the High School of the locality interfering with the proper functions of the Public School, if efficiently performed.

To any one who compares even the present High School programme with the Public School one, it will be evident that to a considerable extent the work of the lower school is similar to that of the 5th and 6th Public School classes, if you omit the optional groups, Modern Languages and Latin.

You will see, then, that the Public School is related to the High School in the same way that the latter is to the University. The High School course overlaps the University curriculum to the extent of at least one year's work, there being senior as well as junior matriculation. And it is maintained that the existence of the former examination will do a great deal towards raising the upper limit of the High School. No doubt it will in time. But why not apply the same principle to the Public School? Let us have a recognized senior as well as junior High School entrance examination.

It is evident that the relations between the High and Public Schools will differ in different parts of the Province, and that the standard of the entrance test will generally be determined by the actual efficiency of the Public School beyond a certain limit. So that in localities able to maintain a High School of the lowest grade only, the entrance test for all classes would naturally be the junior; and in more populous and richer places the same would be available for those desirous of studying classics and modern languages, while the entrant for English would take the senior examination. I am aware that when a higher test was prescribed for the English entrant at an earlier period of the history of our High Schools, it turned out to be a failure; but the situation is now different. Latin is not valued so highly as it used to be; and, if the system of payment by results were judiciously applied to the Public School, I am inclined to think that an impetus would be given to the Public School that would prevent its degradation in cities and large towns and be beneficial to education generally. As a matter of fact, so far as I have been able to

make out there has been little or no diminution in the number of High School entrants this last year ; and I am inclined to believe that in the great majority of schools the new scheme will produce no material change in the present system of transference.

2.—FINANCIAL ASPECT.—It seems to me unfair that the strong and well-supported High Schools with large staffs of teachers and every internal facility for ensuring success, should compete for a share of the same grant with their weaker rivals. Justice to both demands that they should be placed on a different footing. The work in the lower grades must, on the whole, be lower than, though equally important with that in the higher ; and in the long run, if the principle of payment by results be justly carried out, the small school cannot possibly hold its own with the larger. What can a school with two masters do in competition with a well organized and efficient school with six or eight, where there is a proper division of labour ? For my part I feel sure that in the course of a short time the \$14,600, or one-fifth of the whole grant, which is to be distributed on the basis of the "Intermediate" examination, will be divided amongst a very few schools, in addition to their share of the rest of the legislative apportionment. It can hardly, in the nature of things, be otherwise. Even at the last "Intermediate" seven of the 112 High Schools succeeded in carrying off almost one-half of the grants. The large, well manned and well equipped school must win in the end. Besides it will not pay the small ones to incur the expense of the examination for the sake of a possible \$30 or \$40 extra ; and the glory that accrues from passing one or two candidates will be thought so inconsiderable as to be hardly worth the effort. In fact the inducement is so slight that, after this, many will fall out of the competition altogether. If the Inspectors try to make up for this out of that \$10,000, the schools that have done well at the "Intermediate" must lose the proportion of it they are entitled to, and the examination itself be admittedly only a delusion and a snare.

So that, apparently, the scheme that was intended to diminish the resources of the larger schools, will fall short of its accomplishment in a number of instances at any rate, and will strengthen somewhat the smallest schools, but mainly at the expense of those of medium size.

The question then suggests itself whether it would not be to the interest of all classes to separate some of the larger schools from the rest and place them on a different basis, or allow them to compete amongst themselves for Government aid.

3.—Increasing cost of managing the details of the system.

I do not refer to this through any desire to find fault with wise expenditure for educational purposes ; but the increase has of late years been so rapid, that it is well for us to consider it in connection with the improvements it is said to have produced. The following calculation will, I believe, be found to be below the mark. (It includes Local and Governmental expenditure) :—

High School Inspection.....	\$ 6,000
Entrance Examinations.....	3,200
Intermediate Examinations.....	4,000
Total for 1876.....	\$13,200

Of this the only item in 1870 was High School Inspection, \$2,000. By reference to Dr. Ryerson's Report I find the expenditure for masters' salaries from 1870 to 1874 to have increased 75 per cent., the total expenditure for the same period, including an unusually large sum for building purposes, about 100 per cent., whereas the expenses I have detailed above have increased from 1870 to 1876 between five and six hundred per cent. I may also add that the legislative grant for masters' salaries in 1876, is about 33 per cent. more than in 1870. No one will for a moment doubt but that many improvements—in fact as many as could fairly have been expected—have been produced by the introduction of a uniform entrance examination; but whether the largely increased inspectoral power has effected all the benefits anticipated by the gentlemen whose advocacy brought the additions about, is a question which, fortunately for me, these officials have answered themselves.

We now have a supplementary test to the tune of 4,000 a year, and, whether the results of the Intermediate will justify the expenditure for this purpose, is a subject about which, to put it mildly, there is some difference of opinion.

4.—The system of payment, according to the results of an examination held at a certain time, tends to throw the whole responsibility on the masters.

There is little inducement for the pupil to exert himself, and, if he fail once, he will be chary of risking defeat a second time, when he can derive no personal benefit from success.

The desire to bring honor on himself and the school he attends may prove a strong inducement with some candidates; but many of the pupils who would naturally be expected to pass this examination, will not be influenced by this incentive when it conflicts with their own interests or the designs of their friends. Failure on the Algebra paper, for instance, will have a chilling effect on the enthusiasm of the boy whose young heart has been all aglow with a noble ambition to distinguish himself and bring credit on his teacher. It will be difficult for the pupil under such circumstances to appreciate the value of the arguments with which his indifference will be met.

Besides, the Intermediate lacks some of the elements that give importance to the ordinary schoolboy's previous examinations. He is anxious to pass the Entrance Examination, because it means transference from the Public School to the High School. His relations, as well as himself, value the certificate mainly for the material advantage it brings.

The "Intermediate," however, comes on at a period when the great majority have made up their minds to leave school for business or some other occupation, or when the student who intends to teach or join one of the learned professions is getting ready for his examination. What inducement will many of these have to change their course of study or delay their preparation to suit the convenience of the teacher? Or why should the ordinary student whose services may be required at home before the end of the half-year remain to obtain possession of what, in his case, will be a valueless piece of paper? In the very few schools where it will be possible to maintain a well organized upper school, which will form a separate part of the institution, the pupil may come to regard pass-

ing the examination as real promotion, particularly if the teacher apply moral suasion in the form of keeping him in the preparatory classes until he pass. That it will be possible to carry this out in any school, as we do in the case of the Entrance Examination, I greatly doubt, and of the injustice of such a course I am fully convinced. What particular privileges is the solitary individual to possess who lately passed at each of the thirteen High Schools? How is the master to magnify the achievement of the pupil whom the Central Committee delighteth to honour? It will be difficult to the teacher to make his fellow pupils realize that he has acquired any access of dignity.

Unfortunately the great desire on the part of pupils who have examinations to pass is to get through as soon as possible; and it would never do for a master to keep his pupil back because he failed to obtain 40 per cent. in geography, for instance—a subject not required for his special examination. In fact, the teacher will be perpetually on the horns of a dilemma. He must either do injustice to his pupil, by interference with his course of study, and so likely drive him away, or do injustice to his employers, by conniving at a loss of Government aid, not to speak of the injury he will himself sustain. The trouble arises from the fact, that while the strongest possible inducement is held out to the master to prepare candidates for the "Intermediate," there is in a great many instances no reason why the pupil should attach any significance to it. I unhesitatingly assert that a gross wrong is being done to the matter—one which will make itself felt with still greater weight when the novelty of the recent examination has worn off.

There can be no justification in placing the teacher at the mercy of the pupils and their friends. I could mention several instances that have come to my knowledge lately; but no doubt your own observations will have shown you that difficulties of this nature will not be so exceptional as may be imagined. When the results of the "Intermediate" are published in the Toronto dailies, extenuating circumstances can have no effect on the public when they agree upon a verdict without a knowledge of the facts. No doubt a great deal will depend on what determines, to a great extent, the success of every teacher—the *entente cordiale* between himself and his pupils—but if this do not exist, the responsibility for its absence will be generally thrown on the master.

To obviate this difficulty, if the present system be maintained, and no change take place in the standard of the examination, I would propose a plan which will utilize the scheme and justify, to some extent, its existence. Most of you who have read Mr. Matthew Arnold's "Schools and Universities of the Continent" will remember that he refers to an examination which the German student passes before proceeding to the University—"the leaving examination." Such an examination I should like to see this become, only more extensive in its operation. Our "Intermediate" should effect four classes of students: (1) The ordinary pupil; (2) The young man who is preparing for the University; or, (3) for a preliminary professional examination; or, (4) the young man or woman who, having taught the required time on a third-class certificate, desires to obtain a second.

(1.) In the case of the ordinary pupil this examination might take the place of the Oxford and Cambridge local examinations, to which, judging from the papers I have seen, it is about equal in difficulty. It should be acknowledged as such by our National University, which we regard as the proper source of educational honor so far as our High Schools are concerned. In this way the examination would acquire a value and significance it does not now, and never can, possess. The acquisition of such an act of competency, bearing the stamp of our highest educational institution, would be a legitimate object of ambition for every High School pupil, and would give an impetus to education where it is mainly needed.

(2.) If it were recognised as part of the junior matriculation examination, the University would be brought more immediately into contact with our school system, and benefits would accrue to both which it is unnecessary to enumerate.

(3.) If the "Intermediate" certificate were accepted as the preliminary examination for the learned professions, not only expense would be saved to the country, but the educational results to those directly concerned would be far from inconsiderable.

(4.) When, according to the High School Inspectors, the "Intermediate" is equal to the examination for second-class certificates, there should be no objection offered to examine candidates for Public School certificates of qualification on the same papers as our pupils.

Of course in all these cases modification would be made by experience, or to suit the actual requirements of particular professions; but some such adaptation of the system would, I believe, greatly advance the interest of education generally, and immeasurably relieve the master, whose responsibility will be great enough even under these circumstances.

Ladies' Colleges, denominational institutions and private schools in general have at present no means of testing the attainments of the great bulk of their pupils; so that the exact condition of these establishments is a matter of pure conjecture. This examination might be arranged so as to extend to them also, and the State would thus afford them a reliable means of testing the educational force of these schools. That this course would be productive of good to the institutions themselves I have no doubt; while, by making it an object for them to avail themselves of the privilege, the State would indirectly control their course of study, and bring about that homogeneity of culture which is essential in elementary education at any rate. When I read of the praiseworthy efforts that are being made to promote the higher education of women, I cannot help thinking that no real progress can be made so long as the elementary training of the majority of those who do not attend our National Schools is so lamentably defective.

V.—Increasing tendency to determine results by means of written examinations.

These tests have, within the last few years, become so prominent a feature in our educational system, that it is of the utmost importance to determine what influence they will have on High School education.

There is a kind of written examination to which, if judiciously conducted there can be no possible objection. When the teacher examines his pupils in this way in work he has gone over in the class, he is using

an educative instrument of inestimable value. There is no surer method of detecting imperfections in knowledge ; and the pupil is taught judgment and self-reliance, and acquires habits of accuracy in thought and expression. The teacher uses the written test as a means. The character of his teaching is not determined by the examination ; but the class work determines what the written examination will be.

It is highly objectionable, however, I believe, that the questions set by any Board of Examiners should be the teacher's guide in the school-room. It is, unfortunately, a fact that with both pupils and master, education is often turned into preparation for an examination, and what both aim at is not how to gain knowledge and intellectual power, but what will pay at the examination.

A few moments consideration will show you to what extent the master and pupil are now under this influence.

The High School entrant has to pass a written examination for which for some time at least he is prepared by the Public Schoolmaster. When he enters the High School the teacher there will have the "Intermediate" in view, and the pupil's education will be influenced more or less by it ; and when he has successfully undergone the "Intermediate," if intended for the University, a profession or teaching, the written examination again looms in view. As for the master, his life will be one never ending grind, from the beginning of one half-year to the end of the other—examinations every way he turns.

The great question, however, for us to consider is—Does all this tend to promote education ? With your permission I shall point out briefly what seem to be prominent objections to applying the written examination to determine the efficiency of a school, and we shall then be able to appreciate the gravity of the position.

When the pupil is preparing for an examination, he is led to acquire knowledge not on account of its own value, but for the sake of passing. He is in somewhat the same position as the man who marries a woman for her money. It is possible that affection may follow ; but the chances are against such a result, and the principle is universally admitted to be a bad one. The knowledge we obtain in preparing for an examination is valueless as mental culture compared with that pursued for its own sake. When we are anxious to master a subject, we devote ourselves to earnest investigation and consider it in all its bearings, and are not satisfied until we have made it our own. It is to be feared, however, that the candidate at an examination is more influenced by the desire to appear to possess knowledge, than to have that living acquaintance with it which alone can confer intellectual power. It is not the man who has excelled in passing brilliant written examinations that distinguishes himself in after life, and benefits most his fellow man.

Besides, the compulsory examination acts on a pupil's fears, not on his hopes. If he fails, he considers himself disgraced, and the little knowledge he has "crammed" for the occasion will certainly not be regarded with the feelings that should pervade the heart of every lover of the muses. It would not be difficult to estimate the amount of culture acquired by

such a process. In teaching, the theory is that we should win our pupils to the love of knowledge by kindling a noble enthusiasm in their breasts; the practice will be in too many cases to hold up before their eyes the fear of failure. So that they are forced to regard knowledge not as the lover does his mistress, but as a slave does an unreasonable and tyrannical master.

Every genuine teacher knows that the theory is correct, and no educational vageries will succeed in driving out of the hearts of many of us the earnest desire to do our duty faithfully; but it is so hard to always scare up the enthusiasm for over the forty per cent. in each of the thirteen subjects, and "cramming" is such an easy process and pays so well!

Again, does any one require to be told that there is no knowledge so easily forgotten as that we stuff ourselves with to pass an examination? Illustration is unnecessary.

It is well for us then to consider whether this is the kind of thing that should be systematically encouraged by our national system of education.

"In Austria, the country of examinations," says the French Commissioner "there is no intellectual work."

"The paramount aim in Prussia," writes the English Commissioner, "is to encourage a love of study and science for their own sakes; and the Professors are constantly warning their pupils against *Brodstudien*—studies, pursued with a view to examinations and posts."

In Ontario, we say at one moment, "Education, pure and simple, is to be aimed at above all things," and at the next we dangle before the eyes of the men who have the intellectual future of our Province in their hands the greatest incentive we can devise to render them recreant to their trust.

It cannot be maintained, either, that written examinations produce habits of application. Most candidates take it easy until a month or so before the examination, and, when the spasmodic effort is over, relapse into lethargy.

The strongest argument of all against the present tendency, is forcibly brought out in the words of the Rev. Mr. Pattison, who, speaking of University examinations, says:—"The paralysis of intellectual action produced by compulsory examination is not more remarkable than its effect in depressing moral energy. For, as examinations have multiplied on the unhappy pass-man, the help afforded him to pass them has been increased in proportion. He has to lean more and more on his tutor, and do less and less for himself. The tutors do indeed work; they drudge. For they aim at taking upon themselves the whole strain of the effort. It is a point of honor with them to get their pupils through. The examinations have destroyed teaching, which may be said to be a lost art among us."

I should like to hear Mr. Pattison's opinion of the present tendencies in our High School system.

Such being the general tendencies of written examinations in the case of young men, even when the spring that moves the teacher is ambition or honor, there are two exceptional points in our case which I shall briefly state:—

1. The ages of the pupils affected by the "Intermediate" Examination are supposed to range from 12 to 16 or 17—in other words, students are to be subjected to the various influences of this mode of determining results at the time of life when the reflective powers should be trained and developed.

2. A very large inducement is held out to the teacher to prepare his pupils for the "Intermediate," in the shape of an annual grant of \$60 per unit.

I think you will agree with me that it is unfair to the man, and bad policy on the part of those in authority, to make it his interest to pursue some other object than the real efficiency of his school. It should not be wondered at, nor can he be greatly blamed, if he sometimes sacrifice his duty. In this connection it is only necessary to remind you of the form taken by the revival of learning when the legislative apportionment was based on the average attendance in classics. I think that if we could only procure reliable statistics, it would be found that in the matter of morality our profession ranks as high as any other; but you know the old and sacred saying,—"Lead us not into temptation." I need not waste time shewing you why in the eyes of the master and the public this part of the scheme is the important one. I am not one of those who believe that \$10,000 in the Inspectors hands is going to cure all the defects of this system, and the short comings of the masters and trustees of 112 High Schools.

You may reduce the evils of the system by great care in the preparation of questions. In mathematics, the objection is not so strong; but in some of the other subjects of examination the supply of questions that cannot be answered on "cram" seems to be limited. Why! it was only the other day that I saw in an educational journal the advice given to candidates to procure full sets of past examination papers, and the remark was made that if, having worked these through, the candidate failed, he had himself to blame. This I regard, when applied to the boys and girls of our schools, as vicious in principle and subversive of real education. The evil tendencies are just as great when the pupil knows the style of the questions as if he knew the questions themselves. There are no Examining Boards in the Province who can so vary their questions as to enable us to avoid this rock. I think it highly desirable that examiners should be frequently changed. In the matter of the "Intermediate," it would be advisable that the Inspectors should have something to say in the matter, but it is not in the interests of education that our examinations should run in a groove, even if it be a broad one.

If our education is to be what it should be, there must be more than mere working towards examinations. To pass written examinations is not the schoolboy's chief end, and the teacher has a nobler duty to perform than that the mere drudgery of a never ending grind.

There seems to have sprung up in these days a species of men with whom "examination" is king, and "Cram" is prophet. It has been said that "cramming"—that is, filling the mind with undigested knowledge—is better than nothing. I do not believe the doctrine.

A large assortment of facts is useful to any man, and professional education is largely of that nature; but in the school-room, cram has no place. The mental constitution of the boy who is perpetually subjected to this process is injured in the same way as the man injures his body who eats too fast or too much and sows the seeds of dyspepsia.

As a writer I once read says:—"The teacher's duty is not to impart information, but to teach children how to value, gain, and use information for themselves. The mind may be trained so that all his life long the boy can gain lore with ease and rapidity. We do not make good huntsmen by providing them with game at the outset, but by showing them how to hunt and handle their weapons. If in practising we can bring down game, it is well, but, in all the preparatory course, the main subject is practice, not prey."

I had intended to discuss the absence of any incentive to attach due importance to physical culture—to draw attention to the fact that if this branch of education be ignored, we shall have little chance in future of a "*mens sana in corpore sano*." The premium now set on forcing the bright pupil, and neglecting the dull and indolent one, also demands our attention, and might not be amiss to consider the prospect, if matters remain as they are, of a possible more extensive development of the private school. But I find that I have exceeded the limit I had set for myself, and I fear I have already overtaxed your stock of patience. No doubt I have said a good deal many of you will oppose. I should feel that I have imperfectly performed my task if I had not; but I am sure you will all join with me in wishing "a speedy haven of rest for our High School system."

DR. HAANEL'S ADDRESS.

Recent advances in science justify the generalization that the phenomena of the material universe are interpretable in terms of motion. But if motion constitutes the essence of a phenomenon, evidently this motion must inhere in something, and this something must be so constituted as to render possible all kinds of motion which are offered in explanation of the various phenomena. The constitution of matter becomes thus a fundamental problem, upon the solution of which the superstructure of the so called Physical Sciences rest. The importance which attaches to this subject—the constitution of matter,—and the profound interest which it awakens in all thinking minds, have led me to hope that it might not prove an inappropriate and unacceptable topic for a lecture before this convention. I have thought it undesirable to popularize the subject altogether, not so much because of Faraday's saying that "an instructive lecture is not popular, and a popular lecture is not instructive", but more because it is to be delivered chiefly before teachers. I crave, therefore, beforehand, your indulgence, if the subject should demand more attention in certain parts of its treatment than is usually expected to be given to a public lecture.

The first experience we make in connection with matter, which seems to afford us a clue to its structure, is that of its divisibility. No body is known to exist, which may not by the application of proper means be divided into parts. Let us cite an experiment in this direction, and see if we can learn anything from it which can aid us in our inquiry into the structure of matter. We take a piece of the polishing plate of Bilin—a stroke of the hammer will shatter it into fragments. We may continue the same operation with each successive smaller fragment until our hammer proves too coarse an instrument for finer division. We select two or three of the minutest particles thus obtained, and grind them in an achate-mortar until all grittiness has disappeared and the resulting powder has become impalpable. If now we examine this powder under a microscope, even a low power reveals it to be composed of particles of different degrees of fineness and of various shapes not differing in any respect from the original substance except in volume. By employing a higher power the appearance of these little grains becomes greatly altered. Each minute grain is seen to be composed of a great number of very regularly shaped little bodies, most of them perfect, some, however, broken. These little bodies have beautiful, delicate grooves chiseled upon their surface, and are recognized as belonging to the graceful diatom *melosira distans*. It would require 6720 of these little discs laid side by side to fill out a line one inch in length. A cubic inch of the polishing slate of Bilin, would consequently contain in round numbers, 303 billions, 420 millions distinct discs of this diatom, and yet we feel confident, that, even if we could separate the original rock into these individual discs, our division has but commenced! For our magnifying power detected among the discs composing each little grain of our impalpable powder, some which had been fractured and fractured into very irregular pieces. However minute in size and regular in form, these discs, then, cannot represent the smallest particles into which the polishing slate of Bilin may be divided; on the contrary each disc is apparently as divisible as the whole rock, and we see no reason, why, had we the proper means, we might not continue the process of division in the case of each diatom into particles beyond even the range of microscopic power. From this experiment, which may be taken as typical, we conclude that our effort in dividing the slate has been limited *only* by the imperfect means at our command, and that each successive degree of subdivision attained by mechanical means furnished particles not differing in properties from the original substance.

Is matter then infinitely divisible? Our experiment seems to indicate such a conclusion. Or do we in our effort of division finally arrive at particles which can no longer be divided? Clearly we make these two assumptions. Our conception of the constitution of matter will depend upon which of these two assumptions we accept. If we accept the former, that matter is divisible without limit, then each part struck from the whole is only part of the whole, and no discrete particles can be assumed as existing in matter. Matter then fills the space it occupies continuously without a break. Of course this view of matter does not exclude the existence of pores or fissures, but no part can exist *per se* disconnected from matter in matter, for otherwise matter would be composed of these parts, which is contrary to the assumption. This conception of matter is very perplexing; but an analogy, however imperfect may aid

our imagination in realizing it. You have undoubtedly often admired the fairy little glass baskets turned out with such surprising rapidity before the blowpipe of Bohemian glass blowers. These frail ornaments are formed from melted drops of glass, which partially run into each other before cooling. The spaces which are thus left between the limpid drops give it much the appearance of wicker work. We have only to imagine our little basket to be filled with melted drops of glass, adhering to the sides of the basket and to each other in certain points only, to realize the conception of continuous substance. The space which the glass of this basket occupies it evidently fills continuously, for no drop exists singly and discretely by itself, but each drop is joined by some point of attachment to its neighbor, so that we may commence with any little drop whatever and proceed throughout the basket and its contents along the lines of juncture formed by the glass itself, without ever leaving the glass to reach a next particle. This conception does not, as you perceive, exclude the existence of pores or fissures, for these are represented by the spaces left between the drops, and may be as continuous as the glass itself.

If now, on the other hand, we grant a limit to the divisibility of matter, then matter must be conceived of as composed of indivisible particles which we may term atoms, the term signifying indivisible. These atoms we are then to imagine as the building material by the aggregation of which the substance is built up. To fit our former analogy to this conception of matter, it is only necessary to cut the joining threads between our little glass drops, and imagine them held together, not by the substance itself, but by immaterial dynamic bonds. Each drop will thus exist discretely by itself, having no material connection whatever with any other drops. This immaterial connection between the atoms renders this conception of the constitution of matter perhaps more difficult than the former, "but mere difficulties of conception," as Prof. Jevons remarks: "must not in the least discredit a theory, which otherwise agrees with fact." Our choice between these two assumptions will then evidently depend upon the agreement or disagreement of either with the facts of Natural Science. We shall conveniently consider some of the leading facts of chemistry first to determine our choice in accordance with this criterion.

If we place, as Morren has taught us, a globe filled with Sulphur Dioxide—a transparent colourless gas with a suffocating odour—in a dark room, and pass a beam of sunlight through it, at first no change will be observed, but presently a delicate faint blue will appear in the track of the sunbeam within the globe. This tint grows deeper, passes into sky-blue, gradually this fades to a whitish hue, and finally a white cloud will be observed floating within the globe. If the globe be now opened and the contents examined, it will be found that the suffocating odour so characteristic of the Sulphur Dioxide has disappeared. In fact this gas has vanished, and its place has been supplied by two other substances—Sulphur and Oxygen, the former floating in a state of minute division in the latter. This Sulphur and Oxygen, which were evidently in a state of union before the experiment, may easily be proven to be present in the weight ratio of 32 of the former to 32 of the latter. Reversing the experiment by heating the globe, the cloud will at a certain temperature disappear with

a lambent blue flash of light, and upon opening the glass globe our original Sulphur Dioxide will have made its re-appearance, every trace of the Sulphur and Oxygen having vanished. These two experiments of decomposition and recombination may be repeated any number of times without the least change of weight taking place in the contents of the globe. Evidently 32 parts by weight of Sulphur require exactly 32 parts by weight of Oxygen to form Sulphur Dioxide. This definite and invariable weight ratio existing between these elements in the formation of this compound we should find confirmed by every analysis made of the Sulphur Dioxide, whether we obtain it from an iron pyrites furnace of a sulphuric acid factory, or from the throat of an active volcano. I may without difficulty cause Oxygen to enter into combination with Sulphur in a higher weight ratio, namely, of 48 of the former, to 32 of the latter, to form the definite compound Sulphur Trioxide. This compound contains exactly one half as much more Oxygen, than the Sulphur Dioxide. But between these two compounds no intermediate compound can be formed, *i. e.*, none which shall contain the Oxygen in a weight ratio of more than 32 but less than 48 to 32 of Sulphur. These quantitative relations existing between elements to form definite compounds are inexplicable if we assume matter to be continuous. Upon this supposition the whole experiment is shrouded in mystery. Granting the possibility, that continuous substances are capable of combining by interpenetration, the conception of which is however exceedingly perplexing, we do not see why the Sulphur and Oxygen can only interpenetrate in such a definite weight ratio, as 32: 32, and if Sulphur does take up more Oxygen, why only one half as much more. On the contrary it would seem, that all possible intermediate compounds should be capable of formation between any definite quantity of Sulphur and Oxygen, forming an infinite series of compounds shading off imperceptibly in their properties from one to the other.

If, on the other hand, we assume that matter is composed of atoms, which for the same element are exactly alike, and possess exactly the same weight, but differ from those of another element in weight, the explanation of these quantitative relations becomes easy and unconstrained. The very operation taking place in chemical combination may be followed by the mind's eye. We see in the first place wherein chemical combination differs from purely mechanical mixture. In the mechanical mixture of the cloud of Sulphur particles floating in the Oxygen of our experiment, the different atoms of Oxygen exist side by side with the atoms of Sulphur or their aggregations, but with sufficient space between them to prevent the characteristic properties of one substance from being influenced by the presence of the other. At the instant of combination a general rush of atoms takes place. Every Sulphur atom seizes upon two Oxygen atoms and remains finally united to them. If now we bear in mind that the Sulphur and Oxygen atoms differ from each other in weight in the ratio of 32: 16, we readily see that the weight ratio in which these two elements combine must be definite, and that it must be as 32:32, for 2 atoms of Oxygen weighing together 32 have combined with one Sulphur atom which weighs 32 to form Sulphur Dioxide. It also follows at once, since atoms cannot be divided, that if Sulphur combines with more than two atoms of Oxygen, it must combine with three and not $2\frac{3}{4}$ or $2\frac{5}{8}$ atoms

of Oxygen to form Sulphur Trioxide. We may further explain what otherwise would have been inexplicable—why in the act of combination of Sulphur with Oxygen a lambent blue flash of light was observed. The space existing between the Oxygen and Sulphur atoms previous to combination, though exceedingly minute, is in comparison to the actual size of the Sulphur and Oxygen atoms very great. The act of combination being completed in an immeasurably short period of time, the Oxygen and Sulphur atoms rushing together to engage in the *melée* acquire a very great velocity. The shock which they sustain in meeting is correspondingly severe, causing them to tremble in each other's grasp. It is this tremor which, imparted to the universal elastic ether, is just capable of throwing it into undulations corresponding to the blue light we witnessed.

Another and very striking argument in favor of the atomic constitution of matter may be derived from a consideration of a certain class of organic compounds, the metamerides. This interesting class of bodies, although possessing identically the same composition, differ in their physical properties, and furnish, if treated under exactly the *same* conditions with the *same* reagent, entirely *different* products of decomposition. Thus in the two metamerides valerate of methyl and butyrate of ethyl 72 parts by weight of Carbon are combined in each case with 12 parts by weight of Hydrogen and 32 parts by weight of Oxygen. If these two compounds be treated with potassium hydroxide decomposition takes place in each case. The one compound furnishing as products of the reaction potassium valerate and woodspirit, the other potassium butyrate and alcohol. How two compounds of exactly the same composition, and treated in exactly the same manner, can furnish entirely different products of decomposition, is absolutely incomprehensible, unless we assume that the products of decomposition into which they are capable of being separated exist *discretely* in these compounds. But if so they must exist spacially separated in each compound—an assumption of which the theory of the continuity of matter does not admit. We must relinquish all hope of explaining this very singular fact, or admit the theory of the atomic constitution of matter. In accordance with this theory the two metamerides would each contain six atoms of Carbon, twelve of Hydrogen and two of Oxygen, grouped for each compound into differently constituted twin molecules, something like twin clusters of grapes. A cluster of grapes does not ripen its berries all at the same time, but if we pluck it at a certain season we shall find among its purple ripe berries, red ones half ripe and entirely green ones. If, now, to help our imagination, we let the purple berries represent the Carbon atoms, the red the Hydrogen atoms, and the green the Oxygen atoms, we may easily arrange a definite number and kind of berries, say 6 blue, 12 red, and 2 green into a twin cluster representing our valerate of methyl molecule, so that one branch shall contain 4 blue, 9 red, and 2 green, berries, and the other branch 1 blue, and 3 red berries. For our butyrate of ethyl, twin cluster we may arrange exactly the same number and kind of berries in a different manner, so that one branch may contain 4 blue, 7 red, and 2 green berries, and the other branch, 2 blue and 5 red berries. Decomposition of each compound may now be likened, if we think only of one molecule, to the separation of the connecting stem of its respective twin cluster of ber-

ry atoms. This separation in the case of the 2 compounds results in 4 different single clusters, which correspond to the 4 different products of decomposition.

Convinced of the truth of the atomic constitution of matter, Liebig and Dumas sought to find an explanation of the properties of organic compounds in the structure of their molecules. Their brilliant imagination magnified these invisible molecules till they became real systems of atomic groups, which under the play of chemical affinity were made to marshal themselves into varying patterns of marvellous beauty and symmetry. Who has not beguiled in wondering amazement some of his leisure hours by looking at the beautiful forms presented by the arrangement of the colored bits of glass in a Kaleidoscope. Each turn of the tube presented a feast for the eye, in the new and unexpected form of beauty called forth as if by magic. Sometimes falling into patterns so unstable, that the slightest touch would break up their structure and result in a new arrangement. Sometimes clogging in forms so compactly grouped, that it required a vigorous shake of the tube to furnish a new pattern. In like manner we may assume the atoms to arrange themselves like the bits of glass in the Kaleidoscope into stable and unstable molecular structures. We may see in the unstable molecule of chloride of nitrogen, the cause of its ready decomposition with the slightest pressure while the resistance offered to decomposition by silicon dioxide is accounted for by the stable equilibrium of its molecular structure. The contemplation in this matter, of these dynamic systems of atom-clusters, afforded suggestions for experiment, and led to the many brilliant discoveries for which Liebig and Dumas are so justly renowned. One of the grandest results of this method was the enunciation by Dumas of the theory of Substitution. He questioned whether it might not be possible to remove from a complex molecular edifice some of the capstones and replace them by others without destroying the stability of the structure, whether in a compound consisting of Carbon and Hydrogen atoms complexly arranged, some of the Hydrogen atoms might not be replaced by Chlorine. He soon had the satisfaction of answering this query affirmatively by experiment. From purely speculative reasonings based upon the atomic theory Dumas was thus led to the enunciation of a theory, the fruitfulness of which we are as yet unable to estimate, for the impulse it has given to experimental investigation will long be felt. The extension of the theory of radicals to organic compounds and the enunciation by Laurent of the theory of types, as brilliantly generalized by Gerhardt, followed in rapid succession. This chain of theories based upon the assumption of the atomic constitution of matter has not alone enriched us with the discoveries of new and valuable compounds, but has furnished us with what is so essential in exact science—with a rational and natural classification of the ever increasing number of Carbon compounds.

We may now regard our choice between the two assumptions with which we started as sufficiently determined in favor of the existence of atoms, although an important argument in support of the atomic constitution of matter derivable from the specific heat of the elements has been omitted. A constitution of matter, however, which would make an infinite series of compounds between any 2 elements possible, is not inconceivable. With such a constitution of matter chemistry would never

have emerged out of the swaddling cloths of alchemy. Discovery would have been left to pure chance, and the mind of man would have in vain perplexed itself to wring from nature her secrets and render her forces his servants. The very fact, however, that matter has been so constituted, that in its combinations it is obedient to a few laws of exceeding simplicity, which furnish a lamp to the feet of the investigator in his search after new discoveries by enabling him to forecast them, is unmistakable evidence of purpose, and points undeniably to an intelligent First Cause.

Atoms, then, are the indivisible parts of elements. From the combination of atoms of the different elements molecules result. A compound is made up of such molecules—its constitution is molecular. We shall presently see, that from certain chemical considerations we shall be obliged to assume a molecular constitution also for the elements when in a free state; that Oxygen, for instance, does not consist of single atoms at equal distances from each other, but groups of atoms. The difference between a molecule of an element and a molecule of a compound will then consist in the fact, that the molecule of an element is composed of atoms of the *same* kind, while the molecule of a compound is an aggregation of atoms of *different* kinds. Arguments for the molecular structure of elements are derived from their behaviour when being set free from chemical combination. At the instant, namely, of liberation, they are known to possess a greater chemical activity than when in their ordinary free state. This active state of elements has very appropriately been termed the "nascent" state, to indicate that the activity is a result of the liberation. Thus Hydrogen and Sulphur in the nascent state enter with great activity into combination, forming Sulphuretted Hydrogen, while in the free state the combination takes place only with great difficulty and at a great elevation of temperature. This singular difference of activity between the elements in the free and nascent state has been explicable so far only on the supposition, that elements in the free and isolated state possess molecular structure. Thus Hydrogen, for instance, when in the free state may be supposed to exist of twin atoms, the bond which unites them is chemical affinity, which can not be regarded as inactive between the atoms of even the same elements. Their combining tendencies would by such union be partially satisfied, and hence it is quite clear that such molecules would manifest feebler tendencies to enter into new combinations, than if the atoms existed singly with their combining tendencies unengaged. In the nascent state, the atoms evolved from a combination exist singly for an instant, and enter, if no atoms of another element are present with which they can unite, into combination with each other.

This view of the molecular constitution of elements is further supported by the fact, that elements are capable of existing in allotropic modifications in which the *same* elementary body possesses entirely different properties. Thus Oxygen in one modification is without odour and comparatively inactive, in the other, as Ozone, it possesses a strong penetrating odour and is intensely active, and yet both are Oxygen and only that. We cannot possibly account for this difference in the properties of the same element, unless we assume that the allotropic modification of an element depends upon a special grouping of its atoms. This assumption gains confirmation from the fact, that when Oxygen is converted into Ozone condensation takes place, so that 3 vols. of Oxygen condense to 2 vols. of Ozone.

At the moment when one modification passes into the other, as when Ozone is converted into Oxygen, heat is evolved. This is what we should expect if the allotropic modifications depended upon special groupings of atoms, for in the act of rearrangement a clashing of atoms and hence internal commotion, must result. If we conceive 6 atoms of Oxygen arranged in 3 molecules of 2 atoms each to constitute common Oxygen 2 molecules of 3 atoms each may represent Ozone. In the act of conversion of Ozone into Oxygen one atom of each of its molecules is expelled, the 2 expelled atoms unite in a molecule, furnishing 3 molecules of 2 atoms each of common Oxygen. The clashing of the 2 expelled atoms in the act of union represents the heat given out in the conversion.

From these 2 lines of argument we conclude, that atoms never exist single or isolated except in the nascent state, but that in each element the atoms are combined to form molecules, which are indivisible by mechanical means. The constitution, then, of all bodies, whether elementary or compound, is molecular. Returning now to our atoms it will be remembered, that chemical considerations have led to the conclusion that for each element the atoms are absolutely alike in specific weight and other properties, but that for different elements they differ in these respects. The farther question now arises, how may I account for the difference in properties between the atoms of the different elements. What, for instance, constitutes the difference in properties between an Oxygen and Chlorine atom? Why is it, that the Hydrogen atom has a spec. grav. 16 times less than that of an Oxygen atom? If we accept the old notion of atoms, that they are exceedingly minute hard particles, filling the space each occupies continuously with its matter, we might assume with Dalton that an Oxygen atom is 16 times larger than a Hydrogen atom, and thus explain by difference in size of the atoms of the different elements, the difference in their ascertained spec. grav. The fact, however, that all gases expand equally for equal increments of heat, pressure being the same, and diminish in volume equally for equal increments of pressure, temperature being the same, led Avogadro as early as 1811 to the great generalization, that equal volumes of gases at equal temperatures and pressures contain the same number of molecules. This generalization is now universally accepted and lies at the foundation of our modern chemistry. Assuming the molecular structure of gaseous elements to be the same, we may state the law of Avogadro in the following modified form: For the same temperature and pressure, elements in the gaseous state contain the same number of atoms. In accordance with this law it follows, that to account for the difference in spec. grav. between Oxygen and Hydrogen, for example, by the size of their atoms, we should farther have to assume, that in a pint of Oxygen gas the atoms are packed 16 times closer together than the atoms of Hydrogen in the same volume measured at the same temperature and pressure. In accordance with this view we may make the general statement, that for different elementary gases measured at the same temperature and pressure the distance between their molecules depends upon the size of their atoms. This would undoubtedly explain the difference in the atomic weights of the elements, and without speculating any farther we might rest satisfied with the statement of Dalton, that any other distinguishing properties between the elements are due to inherent differences in the nature of their atoms. Most of the continental chemists did

not rest with this conclusion of Dalton's, and many bent their energies to discover methods for determining experimentally the relative size of the atoms of the different elements, but it is to the extensive labours of Schroeder and Kopp especially that we owe any advances made in this direction. Assuming the solid condition of each element at equal temperature and pressure to be of the same molecular structure, these eminent chemists have succeeded in showing, that many of the elementary bodies may be arranged in groups, each group consisting of members in which the solid atomic volume is identical. Thus chromium, cobalt, copper, iron, nickel, and manganese have the same atomic volume, which differs only from that of another group. This has naturally created a very strong probability in favor of the equality in the size of the atoms of these elements against Dalton's assumption to the contrary. Selecting Osmium and zinc out of another group for which Kopp has proven an equality of solid atomic volume, it will be very probable, that an atom of Osmium is of the same size as an atom of Zinc; yet I may ask the question, how am I then to account for the difference between the atomic weight of these elements? The only reason I can assign for the difference between the spec. grav. of bodies is, that for equal volumes they contain unequal quantities of matter. But if an Osmium atom occupies as much space as a zinc atom, and the space occupied by each is continuously filled with its matter, I cannot see how equal spaces may contain in the one case 3 times as much continuous matter as in the other. This difficulty may be overcome if we abandon the old conception of the continuity of the atom altogether and conceive of an atom as itself a compound. Such an assumption is farther justified by the fact, that elementary bodies in their properties do not so fundamentally differ from bodies which are known to be compound as to exclude the belief of a certain complexity in the nature of these atoms. The element Oxygen does not differ more fundamentally in its properties from the element Chlorine, than this last differs from Cyanogen or Carbon Dioxide, which are known to be compounds. We may then assume an atom to be a compound of particles of the same size, weight and form, united in numbers corresponding for each element to its combining weight, and held together in stable systems by dynamic bonds, which have resisted all efforts of decomposition. These particles of which elementary atoms are conceived as composed, have been variously termed atomettes, elements, and physical atoms. These terms have already significations attached to them other than to the one here needed, and to avoid confusion we shall call these last particles of which all atoms are composed *ultimates*. Matter from this point of view is all of the same kind, consisting of ultimates, which are perfectly identical. These combined in definite numbers corresponding to the different atomic weights constitute the atoms of the various elements. Whatever number of ultimates we conceive of as united to form our atom of Hydrogen our atom of Oxygen will contain 16 times that number, Nitrogen 14 times that number, and so on. We can now explain without any difficulty how atoms of the different elements having the same size may contain different quantities of matter, for we may readily conceive, that, in the Osmium atom, which contains 3 times the quantity of matter that is contained in a zinc atom, the ultimates are packed 3 times closer than in the zinc

atom. We have here a consistent explanation for the difference in the atomic weights of the elements, any other differences in the properties of the various elements, we may with this view of matter conceive as depending not, as so vaguely expressed by Dalton, upon the inherent differences in the nature of atoms, but more consistently with the generalization that phenomena are interpretable by motion, depending upon the nature of the motions set up in the atoms.

This theory has been developed in explanation of chemical phenomena in a remarkable work entitled "Elements of the Economy of Nature" by Dr. Macvicar. In this work figurative representations of the atoms of the various elements are even attempted, and from their inspection the author has been led to predict the possibility of the resolution of some of the elements into simpler bodies. We know, as yet, too little of atoms to have much confidence in these figurative representations. Future investigations may indeed reveal their nature and permit of their dynamic formulation, but at present we shall have to rest with the conclusion that atoms are compounds, without attempting to form a definite idea of their special configuration.

These ultimates, however minute, must be conceived of as extended, and consequently must have size and form; for, if matter in its ultimate analysis is resolved, as Bayma in his molecular physics maintains, into material points, having location but not extension, it will be difficult to see how, by the aggregation of any number of such unextended points, extended bodies result. Extension, as our first experiences tell us, is a primary property of matter, that property in virtue of which it occupies space. To deny it this property, is to do away with matter altogether, and it is perfectly absurd to talk about *material* points, having location but not extension. Boscovich in his famous mechanical theory more consistently denies the existence of matter altogether, and assumes, instead of material points, centers of force which by their interaction give rise to the various phenomena we witness. "But no arrangement of centers of force, however complicated," as Clerk Maxwell very pertinently remarks, "can account for the fact, that a body requires a certain force to produce in it a certain change of motion, which fact we express by saying, that the body has a certain measurable mass. No part of their mass can be due to the existence of the supposed centers of force." Berthelot, the eminent French philosopher, maintained, that the atoms of the elements are composed of the same matter, distinguished only by the nature of the motions set up in them; and Henry St. Claire Deville after him, declared "that when bodies deemed to be simple combine with one another, they vanish, they are individually annihilated. For instance he maintains, that in "Sulphate of Copper", there is neither Sulphur nor Oxygen, nor Copper. Sulphur, Oxygen, and Copper are composed each of them by a distinct system of vibrations of one energy and one single substance. The compound Sulphate of Copper answers to a different system, in which the motions are confounded that would produce the respective individualities of its elements, Sulphur, Oxygen and Copper." But what conception can we form of such vibrating oscillating atomic weights? How can vibration account for the constant weight ratio in which the atoms of the different elements enter into combina-

tion? If but one kind of matter is assumed, then to account for the difference in the combining weights of the elements, these must contain in the construction of their atoms different quantities of it. Besides, we cannot point to a single case of constant unimpeded motion; yet this theory necessitates the conclusion that the atoms have each from the commencement of their existence vibrated with a definite velocity of which none has been dissipated. These objections do not apply to our conception of an atom as a compound of extended particles, which we have termed ultimates. These we must imagine as firmly united by dynamic bonds in numbers corresponding to the combining weights of the atoms into stable systems, which resist our best efforts to produce decomposition. Yet we must think of them as so united, that even in the densest atom they do not touch each other but leave ample room for rapid vibrations and oscillations across their respective positions of equilibrium. These ultimates, then, are the building material, from which by establishment of immutable configurations elements resulted. Through the constant flux of these to ever more and more stable combinations, this sublime universe is hastening to its destined end. To conceive of the minuteness of these ultimates is as futile a task as the endeavour to grasp the meaning of the number which might be written to express in miles the distance of the faintest nebulae on the outskirts of our sidereal system. Truly "*Deus magnus in magnis, maximus in minimis*," we may exclaim with a profounder meaning than the author of these much quoted words could ever have realized. If now in imagination we magnify one of our little diatoms *melosira distans*, which we used in our first experiment as an illustration of the divisibility of matter, we should see it break up into myriads of groupes of molecules harmoniously disposed about centers of attraction each molecule formed of a triplet of atoms. One atom of Silicon consisting of 28 or some multiple of 28 ultimates joined to 2 atoms of Oxygen, each composed of 16 or some multiple of 16 ultimates. We should see each ultimate vibrating within each atom, each atom vibrating in each molecule, each molecule moving in each group, and each group animated with its own motion. We need only imagine each ultimate a shining, twinkling point, to realize the analogy between this structure and the star spangled expanse of a night sky above us. We should, if we carry out the fancy of Dumas, see worlds, circulating about worlds, and these again about other worlds, blending to a harmonious law-regulated whole. A microcosm expanded to a macrocosm! The sublime study of astronomy reversed.

The compound structure of the atom has so far been deduced from chemical facts; we shall see, however, that certain physical phenomena also require for their explanation the assumption of the compound nature of atoms. Dr Draper was the first to show, that when a solid is gradually heated from redness to whiteness, and the light it emits is passed through a prism, and its spectrum examined, that the colours made their appearance successively as the temperature rose, first the red, then the orange was added, then the yellow, the blue, the indigo, and finally the violet, so that when the body attained white heat it

emitted light waves corresponding to all the colours of the spectrum. Reversely, when the body cooled from white heat, the colours from the violet to the red would be successively blotted out from the spectrum. Now the light and heat given out by the white hot body, are due to the intense internal commotion of the solid—its atoms and molecules are in incessant and rapid vibration, which, communicated to the universal elastic ether, throw it into corresponding vibrations, which received upon our retina produce the sensation of light and colour. But it has always been found exceedingly difficult to imagine a motion of a solid atom, which shall be capable of throwing the universal elastic ether into a series of waves graduating completely, and without a break from red, and below it to violet and above it. The phenomena of sound are usually cited as an analogy in point. It is, namely, a fact of acoustics, that a vibrating string sounds not alone its fundamental tone but gives a variety of other less intense tones, termed over tones. To illustrate optically the compound motion of a sounding body, which renders it capable of producing overtones, it is only necessary to fasten a common knitting needle with a silvered bead attached to one end with sealing wax into a common vice upright, so that the glass bead may swing with the knitting needle if this is set into vibration. Concentrating the light of a lamp upon the bead in an otherwise dark room, and striking the needle gently, yet quickly, the bead will be seen to move in beautiful undulating lines of light intertwining in the most marvellous patterns. We are told to imagine the oscillation of an atom something like this motion of the bead, in explanation of the variety of ether waves capable of generation by such motion. The analogy, however beautiful, does not hold good, for no sounding body can be made to vibrate in such a manner as to give rise to all the possible sounds at the same time. Our white hot body does, however emit *all* the waves of light from the red to the violet at the same time. In explanation of this, it may of course be said, that in a solid, made up by the aggregation of complex molecular groups of atoms, held together by the force of attraction, yet prevented from touching by an assumed action of a repulsive force, that in such an aggregation some in each group would be so disposed in relation to the others, as to require from the attractive tension exerted upon them a greater force to set them oscillating than the others. The former would vibrate more rapidly and give rise to shorter wave lengths than the latter. This argument may be extended to all the other atoms composing one group, so that a difference of position of an atom in a group accounts for the different attractive tension to which it is subjected, and consequently for the different rate of vibration it maintains. In accordance with this explanation a single atom of a group is not assumed as competent to furnish all the wave lengths of the spectrum, but only its definite and specific quota, which includes its fundamental vibration and its specific overtones—this latter term signifying, for want of a better, the additional superposed vibrations. Each atom of a group then furnishes its specific set of vibrations, different from that of another atom of the same group in consequence of the disturbing effect of the attractive force of the atoms of a neighboring group. The whole

effect owing to *aggregation* would be the sum of all these vibrations, resulting in a continuous spectrum. If now we cancel the force of attraction, which held these atom groups together in the solid, by rendering the solid a vapour, then each molecule of the substance will no longer be influenced by any attraction exerted upon it by any other molecule, and we shall now only obtain if we render the vapour incandescent, the fundamental vibrations, and its specific overtones, and these only. These fundamental vibrations and overtones would now of each atom be exactly the same, and not, as in the case of the solid, different merging into a continuous spectrum. These definite vibrations should furnish a discontinuous spectrum consisting of a number of bright lines. This is found to be the case. If, for instance, we vaporize iron between the carbon poles of a voltaic arc and send the light, which this incandescent iron vapour emits, through a prism, the spectrum which it furnishes will be found to consist of a surprising number of bright lines from the red to the violet. The spectrum is discontinuous. If we consider the vibrations such an iron atom must perform to produce this effect, and think of the atom as the gleaming silver bead of the knitting needle we should, by reducing its vibrations in rapidity, see it weaving luminous patterns of wonderful complexity and marvellous beauty. By substituting air, for the universal elastic ether, and bringing the vibrations within the range of the auditory nerve, we should hear the incandescent vapour sing its fundamental tone and overtone,—it would be musical. The incandescent solid considered in the same manner would produce a painful and intolerable noise, as when *all* the keys of a piano are struck at the same time. It must, however, be observed that the motion of the glass bead of the knitting needle in that manner, which renders it capable of giving out overtones, is a consequence of the solid structure of the knitting needle—a result of the aggregation of myriads of groups of atoms composing the knitting needle; and in order, that this analogy shall hold good for our iron atom, we must also regard it as an aggregation of still smaller particles—our ultimates; for the more we think of it, the more impossible will it seem, that a solid continuous particle can vibrate in the supposed manner. Were the atom a compound, we could understand it, and the bead of the knitting needle would then be an analogy in point. For we would then see how in a compound of a number of ultimates, bound at definite distances from each other to a permanent system, the iron atom could maintain a palpitating motion necessary for the explanation of the phenomena of light. The position of each ultimate with respect to the whole system constituting the atom would assign to it its vibrating period in conformity with the definite force of attraction exerted upon it by other ultimates of the same system. The force of attraction would vary in intensity according to the position of the atom within the system; this force of attraction would determine its vibrating period, which might be different for the different ultimates of the same atom. We could then also see, that the greater complexity of aggregation would be capable of emitting light waves verging more and

more toward a continuous spectrum, which is reached when the solid state is attained; and, further, we can see why each elementary substance in the form of incandescent vapor has a definite, different spectrum, since the spectrum may now be supposed as depending on the grouping and number of the ultimates constituting an atom.

The perfect coincidence of the vibrations of incandescent hydrogen upon the earth, no matter how obtained, with that observed in any celestial body which is known to contain it, the perfect definiteness and invariability of its combining weight, no matter from what source the Hydrogen be extracted, be it from meteoric iron, or from some kind of coals deposited ages ago in the carboniferous age, show it to be constructed upon one pattern, one type—its configuration is permanent, and this holds equally true with all the rest of the well established elements. We cannot avoid the conclusion of Sir John Herschel, that this uniformity and invariability are marks of a manufactured article—it was created, and it must be admitted with Clerk Maxwell, the illustrious physicist, “that in the case of molecules, each individual is permanent, there is no generation and no variation, or rather no difference between the individuals of each species. Hence the kind of speculation with which we have become so familiar under the name of theories of evolution is quite inapplicable to the case of molecules.” If then we accept the nebular hypothesis, we must at least start with these manufactured molecules. The time may not be far distant when the spectroscope will furnish material aid to research in the domain of molecular physics, when we shall be enabled to make out connections between the wave lengths of the bright lines of the metals and their atomic weights. We may even hope that molecular physics will be reduced to an exact science, so that from its data we shall be able by mathematical deduction to arrive at the properties of matter.

The case of heat is so similar to that of light, that whatever in the structure of atoms is capable of explaining the emission of light waves will also explain the emission of heat waves.

But we may yet derive a further argument for the compound constitution of our atoms from the late development in molecular science arrived at by the joint labours of Kroenig, Clausius, and Clerk Maxwell. The dynamic theory of gases maintains, that the molecules of a gas are in a state of rectilinear motion, flying in all directions at a calculated velocity of 17 miles per minute, through the space the gas occupies, having their directions continuously altered by collisions with each other, and producing pressure by striking against the sides of the containing vessel. It might indeed at first sight appear strange to you, that we should be able to sustain unharmed a bombardment of the molecules of this air moving at the rate of 17 miles per minute. We can do so, remarks Clerk Maxwell “only because the molecules happen to be flying in different directions, so that those which strike against our back enable us to support the storm which is beating against our faces. Indeed, if this molecular bombardment were to cease, even for an instant, our

veins would swell, our breath would leave us, and we should literally expire." It is, however, to a statement of Clausius in connection with this theory that I call your special attention. In an article entitled "Motion, which we call heat," he states in description of the resulting collisions of the molecules, (the term molecule in molecular physics may be substituted for our term compound atom,) that when 2 molecules in their motion collide, they fly apart with in general the same velocity, which they had before impact. Now from this it follows that the molecules must be elastic, and perfectly so, if no motion is to be lost in the collision. But we cannot think of elasticity as a property of continuous bodies. When 2 glass balls in motion meet we explain the fact of their flying apart by appealing to their molecular structure. The 2 balls in meeting approach with their centres of gravity, the balls flattening at the point of contact, the molecules, which are there situated, have been pressed inwards in regaining their original position the balls are propelled in directions opposite to the original direction of motion. We need exactly the same explanation for the collision of any 2 molecules, say of Oxygen gas, and we shall have to seek the explanation of the elasticity of molecules in the construction of their atoms—their compound nature, for only then will they be capable of exhibiting a resilience so necessary for the application of the kinetic theory to gases.

Thus from both chemical and physical considerations, we have been led to assume a compound nature for the atoms. Matter conceived of as molecular aggregations of groups of such atoms is, on account of the marvellous complexity of structure it permits, admirably adapted for an almost unlimited variety of motions. In the variety of the motions of these ultimates and their groups lies the explanation of the variety of the phenomena of this beautiful universe. The diamond sparkling on the bride's finger owes its splendour to its molecular structure. Each maple leaf, ere it is chilled by the winter's frost, changes the rate of vibration of its chlorophyll, which wraps it in a winding sheet of gorgeous red. The deep blue sky above the golden tinted clouds on a western horizon, owe their beauty but to the vibrating periods of molecules; and even were we able by mathematical analysis to follow all these motions, and accurately formulate them, rudely as this might tear away the glory and beauty which like a veil cover this creation, we would, I doubt not, find behind it that which would anew inspire us with awe, awe with reverence, as we gaze out upon the boundless fields of beauty and knowledge beyond! Our soul is thirsty for this knowledge, and the intellects of our best men are strained to their utmost in unraveling this wondrous complexity of structure and motion. Those who have seen deepest into it, and have gone farthest in their investigations, have worked their way through Materialism, and attained with President Wurtz to the conclusion that things have not in themselves their own *raison d'être*, their support and origin, but are subject to a First Cause—unique, universal, God.

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SOLE AGENTS FOR THE DOMINION OF CANADA.

MINUTES
OF THE
SEVENTEENTH ANNUAL CONVENTION
OF
THE ONTARIO ASSOCIATION
FOR THE
ADVANCEMENT OF EDUCATION,
HELD IN THE
THEATRE OF THE NORMAL SCHOOL BUILDINGS,
TORONTO,
ON TUESDAY, AUGUST 14, 1877.



TORONTO:
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1877.

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COLBORNE STREET, TORONTO.

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TUESDAY, AUGUST 14, 1877.

The Convention opened at 2 p.m. Robert Alexander, Esq., Vice-President, in the chair.

After the reading of a portion of Scripture, and prayer, by Mr. Kilgour, the Roll of Officers was called by the Secretary.

Moved and seconded,

That the Minutes of the last meeting having been printed and circulated among the members, be considered as read, and be adopted as correct.—*Carried.*

The Treasurer, Mr. S. McAllister, read his Report, which showed that financially the affairs of the Association are in a very satisfactory state.

Moved and seconded,

That the Treasurer's Report be received and adopted.—*Carried.*

Mr. J. R. Miller moved, seconded by Mr. Johnston,

That Mr. S. P. Halls be Minute Secretary.—*Carried.*

The President nominated Messrs. J. R. Miller and Dickenson as Auditors to examine the Treasurer's Statement and to report thereon.

The Secretary read communications expressing regret at inability to attend the Association, from Mr. M. McVicar, Principal of Normal School, New York; Prof. Ramsay Wright, Prof. of Natural History, University College, Toronto; Dr. McVicar, Principal of the Presbyterian College, Montreal; and from Hon. Justice Moss, Vice-Chancellor of the University of Toronto.

J. H. Smith, Esq., I. P. S. for Wentworth, then read an excellent paper on "Township Boards," for which a hearty vote of thanks was tendered him, after which the subject was thrown open to discussion, Messrs. Dickenson, Miller (Walkerton), Dearness, Millar (St. Thomas), McKinnon, Harvey, Knight, Tilley, Miller (Goderich), Lewis, McAllister, Barber, McQueen and Tamblyn, taking part in the same. The essayist closed the discussion with a few remarks.

It was then moved by J. H. Knight, Esq., P. S. I. for North Victoria, seconded by J. J. Tilley, Esq., P. S. I. for Durham, and resolved,

That the system of Township Boards, as provided for in the School Act of 1877, is likely to prove a great improvement on the present sectional system, and is worthy of the sympathy and support of all friends of education.

Moved and seconded,

That the hours of meeting for this Convention be from 2 to 5 o'clock, p.m., and from 7.30 o'clock, p.m., to adjournment, the forenoon of each day being for meetings of the different sections of the Association.—*Carried.*

It was then moved by Mr. Dickenson, seconded by Mr. Tamblyn,

That inasmuch as by the Free School system the wealthy residents of a section assist the poorer in the education of their children; to be consistent, it should be enacted, as soon as possible, that wealthy sections in a township should assist in supporting the weaker sections, by a system of uniform township taxation.

On motion, the discussion on this resolution was adjourned till the evening session.

Convention rose till evening.

• EVENING SESSION.

First Vice-President took the chair at 7.30.

Moved by Mr. Seath, seconded by Mr. MacMurchy, and resolved,

That the following be a Committee to wait upon the Pro-Minister of Education in reference to the publication of the results of the late Teachers' Examinations for 1st and 2nd class Certificates, viz., Messrs. McAllister, Dickenson, McCallum, McIntosh, Millar and the mover

The Secretary read a communication from the Rev. Principal Cavan, President of the Association, thanking the members for the honour conferred on him by electing him President of the Association, and expressing regret at his being unable to be present.

Mr. MacMurchy then read the address which had been prepared by the President for presentation to the Association; subject, "Discipline in Schools: its Objects and Methods."

Moved by Mr. Dickenson, seconded by Mr. Seath,

That a hearty vote of thanks be tendered to the President for his able address.—*Carried unanimously.*

The adjourned discussion on Mr. Dickenson's resolution was then entered on, Messrs. Knight, Raine, Tamblyn and Millar (St. Thomas) taking part in the same.

The resolution on being put to the vote was *lost*.

Moved by Mr. Dearness, seconded by Mr. McKinnon,

That in the opinion of this Association the Government and municipal grants should be apportioned partly on the basis of average attendance and partly on the basis of local effort, as shown by the certificate of the teacher employed, and the rate raised by the section for ordinary school purposes.

A discussion followed, in which Messrs. McQueen, Knight and Moran took part, after which the motion was withdrawn by the mover and seconder, with the consent of the Association.

The following delegates reported on behalf of their Associations :

- Mr. Chapman, Waterloo.
- " Hicks, Huron.
- " Osborne, Haldimand.
- " Robinson, South Ontario.
- " Barber, Durham.
- " Dickenson, South Perth.
- " Butler, Elgin.
- " Johnston, Northumberland.
- " Crozier, North Perth.
- " Munroe, Eastern Ontario.
- " Lewis, Toronto.
- " McMillan, Centre Wellington.
- " J. H. Smith, Wentworth.

Reports have been received from delegates for 14 Associations, having a total membership of over 1,000.

The delegates stated that the Associations were engaged in practical work, generally procuring the services of some prominent educationist to lecture and illustrate methods of teaching the various subjects.

The Convention then adjourned.

August 15, 1877.

The Convention met at 2 p.m. First Vice-President in the chair.

Mr. McCallum opened the Convention by engaging in prayer.

Minutes of the previous meeting read and confirmed.

Moved by Mr. J. R. Millar, seconded by Mr. McKinnon,

That a committee of five be appointed by this Association to consider and report upon the whole question of Township Boards, as well as upon the distribution of the legislative and municipal grants, and the equalization of taxation under the present sectional system; said committee to consist of Messrs. McQueen, Dearness, Tilley, and the mover and seconder.—*Carried.*

An excellent address on "Uniform Promotion Examination in Public Schools," was then delivered by J. M. Moran, Esq., P. S. I. for South Perth.

Moved by Mr. Scarlett, seconded by Mr. Seath,

That the thanks of this Association be tendered to Mr. Moran for his address.—*Carried.*

An animated discussion on "Promotion Examination" ensued, in which Messrs. Miller (Walkertown), Barber, McKinnon and Robinson took part. At this stage of the proceedings the President announced that the time for the discussion had expired, when

Mr. Strang moved, seconded by Mr. Millar (St. Thomas), that the discussion be continued for half an hour.—*Carried.*

The discussion was then continued, Messrs. Scarlett, McBrien, McCallum, J. R. Miller (Goderich), Millar (St. Thomas), Lewis, Brown and Tamblyn taking part. The President again announced that the time for the discussion had expired, when it was

Moved by Mr. Dearness, seconded by Mr. Brown,

That the discussion be kept open for another half hour.—*Lost.*

The discussion was closed by Mr. Moran making a few remarks.

Moved by Mr. McKinnon, seconded by Mr. McCallum,

That in the opinion of this Association the adoption of county uniform examinations would in many respects prove beneficial to our public schools.—*Carried.*

Mr. MacMurchy then stated that he had received a communication from Mr. A. McIntosh, expressing regret at not being able to attend to take up the question of "Training Schools for Teachers," on which the President called on Mr. Johnston to open the discussion, in which Messrs. McCallum, Scarlett, Brown, Morrison, McBrien, Lewis, Ross, Raine and Dickenson took part.

The Convention then rose till evening.

EVENING SESSION.

First Vice-President took the chair at 7.30.

The Rev. Dr. Fyfe gave a very excellent address on "Teachers and their Mission."

Moved by Mr. Knight, seconded by Mr. Scarlett,

That a hearty vote of thanks be tendered to the Rev. Dr. Fyfe, for his very able address.—*Carried.*

In reply to a question, the delegate for Eastern Ontario stated that the Association which he had the honour to represent is by no means in opposition to this Association.

Moved by Mr. Barber, seconded by Mr. Lewis,

That the thanks of this Association are due and they are hereby tendered to the Hon. Minister of Education, for the provisions and standing given to the Local Associations, believing the educational interests of the Province will be materially aided by the cognizance so given.—*Carried.*

The Convention then adjourned.

August 16, 1877.

The Convention met at 2 p.m. First Vice-President in the chair.

Mr. McCallum led in prayer.

Minutes of the previous meeting read and confirmed.

Dr. May was then introduced to the Association by the President. The Doctor stated that if the teachers of the Province were desirous of visiting the Paris Exhibition next year, he would be in a position to render them material assistance, and he would willingly do all he could to make a visit to Paris a success in every sense of the word.

Moved by Mr. McCallum, seconded by Mr. Johnston,

That a vote of thanks be tendered to Dr. May for his thoughtful kindness.—*Carried.*

Moved by Mr. J. R. Miller, seconded by Mr. Knight,

That this Association appoint the following to act as a committee to consult together as to the advisability of following up the suggestion of Dr. May, in reference to teachers' excursion to Paris: Messrs. Dawson, Munroe, J. R. Miller, Johnston, Tilley, McCabe, Kirkland, McLellan and Dr. May.—*Carried.*

The Secretary stated to the Association that the requests made to the Grand Trunk and Great Western Railway Companies, with reference to fares, &c., were kindly granted.

The Auditors reported that they had examined the Treasurer's Report, and found the same correct.

Mr. Dawson, the delegate to the Quebec Protestant Teachers' Association, reported on the working of that Association.

The Report of the Committee on Township Boards was then laid on the table.

Moved by Mr. McAllister, seconded by Mr. Alexander,

That the Report of the Committee on Township Boards be received and printed in the Minutes of the Association.—*Lost*.

Moved in amendment by Mr. Knight, seconded by Mr. Strang,

That the Report of the Special Committee be received, and that the consideration thereof be deferred until after the election of officers and the address of Dr. Tassie.—*Carried*.

Minutes of the Public School Teachers' Section, as well as the Minutes of the High School Teachers' Sections, were laid on the table.

Mr. Hughes reported on behalf of the Committee appointed to confer with the Minister of Education, with a view to secure the establishment of a Representative Board to advise with him on educational matters, that they had waited on him for the above-named purpose, and that he promised to give the matter his careful consideration, and would notify the Committee when he had arrived at a conclusion on the subject. No word had as yet been received.

The Executive Committee recommended the following as officers for the ensuing year:—

President—J. A. McLellan, LL.D.

Recording Secretary—A. MacMurchy, M.A.

Treasurer—S. McAllister, Esq.

Corresponding Secretary—J. Hughes, Esq., P. S. I.

Moved by Mr. Alexander, seconded by Mr. Mills,

That the recommendation of the Executive Committee be adopted.—*Carried*.

Report of the Public School Inspectors' Section was laid on the table.

Dr. Tassie gave a very practical address on the "Relation of the Public and High School Programmes."

Moved by Mr. Scarlett, seconded by Mr. Hicks,

That the thanks of the Association be tendered to Dr. Tassie for his very practical address.—*Carried*.

A discussion then ensued, in which Dr. Kelly, Messrs. Dickenson, Brown, Scarlett, Miller (Walkerton), Millar (St. Thomas), Seath, McAllister, Tamblin, Hicks, Husband, Raine and Kirkland took part.

Moved by Mr. Doan, seconded by Mr. Brown,

That the Report of the Special Committee on the Distribution of the Legislative Grants, &c., be received and printed in the Minutes, and that the consideration of the said Report be postponed until the next meeting of the Association.

Convention adjourned till evening.

EVENING SESSION.

First Vice-President took the chair at 7.30.

Minutes of the afternoon session read and confirmed.

Dr. Ellis then gave a very elaborate address on "Chemistry."

Moved by Dr. Kelly, seconded by Mr. Kirkland,

That the thanks of this Association be tendered to Dr. Ellis for his very able and instructive lecture on the science of chemistry.—*Carried.*

Moved by Mr. Kirkland, seconded by Dr. Kelly,

That a Committee be appointed to ask the Ontario Government to grant a few scholarships to be competed for at the University examination for women, said committee to be Messrs. Buchan, Robinson, Dickson (Hamilton), and the mover.—*Carried.*

Mr. MacMurchy moved, seconded by Mr. J. R. Miller,

That votes of thanks be given to the railroad companies for reducing the fares; to the Education Department for the use of the hall; and especially to the city newspapers for their full and accurate reports of the proceedings of the Association.—*Carried.*

Moved and seconded,

That the next meeting of the Association be held in Toronto.—*Carried.*

Moved and seconded,

That the thanks of this Association be tendered to J. H. Smith, Esq., for the very able manner in which he has presided over the deliberations of the Association.—*Carried.*

The National Anthem was then sung, and the Convention closed.

ARCHIBALD MACMURCHY,

Secretary.

TREASURER'S REPORT FOR THE YEAR 1876-7.

RECEIPTS.

Deposit in Bank	\$ 94 09
Cash in hand	12 76
Interest on Deposit	6 25
Members' Fees	53 00
Proceeds of Sale of Minutes	55 20
Advertisements in Annual Report	42 50
	<hr/>
	\$ 263 80

EXPENDITURE.

Printing Annual Report of 1875, Balance of Account	\$ 50 00
Printing Annual Report of 1876, in full	62 91
Printing Annual Circular	16 00
Expenses of Delegate to Montreal	15 00
Minute Secretaries for Conventions of 1875 and 1876	8 00
Secretary's Account for Postage, &c.	10 00
Treasurer's Account for Postage, &c.	4 67
Advertising	2 00
Caretaker of Normal School Buildings	4 00
	<hr/>
	\$ 172 58
Balance in Bank	75 34
Cash on hand	15 88
	<hr/>
	\$ 263 80

SAMUEL McALLISTER,
Treasurer.

PROCEEDINGS OF PUBLIC SCHOOL SECTION.

THEATRE, NORMAL SCHOOL, TORONTO,

August 15, 1877.

The first meeting of the Public School Section took place this morning at 9 o'clock. Mr. Alexander, chairman; Mr. Dickenson, secretary.

The first business was, "How to teach Arithmetic, Algebra and Geometry," by T. Kirkland, M.A., Science Master, Toronto Normal School.

The Section proceeded to Mr. Kirkland's room in order that black-board accommodation might be secured.

An hour and a half was taken up with Algebra and Geometry, when Mr. Kirkland suggested that Dr. McLellan, High School Inspector, might be secured to take up Arithmetic.

On motion of Mr. Dickenson, seconded by Mr. McAllister, it was agreed to refer the suggestion to the Executive Committee.

Mr. Harvey moved, seconded by Mr. Raine,

That the thanks of the Section be tendered to Mr. Kirkland for his able exposition of methods of teaching Algebra and Geometry.
—*Carried.*

Mr. Dickenson moved, seconded by Mr. Barbour,

That the question of "County Model Schools" be discussed.—
Carried.

Remarks were made upon the question by Messrs. Dickenson, of Stratford; Lewis, of Toronto; Johnson, of Cobourg; Barbour, of Durham; Harvey, of Barrie; Hicks, of Huron; Goggin, of Port Hope; Osborne, of Dunnville; and Chapman, of Berlin.

Dr. McLellan spent the forenoon with the Section, and assisted in discussing the question of model schools, defending the scheme recently given the country quite warmly.

Moved by Mr. Johnston, seconded by Mr. Davy,

That this Section heartily approve of the scheme of county model schools, as inaugurated by the Minister of Education.—*Carried.*

On motion, it was decided that fifteen minutes be allowed Mr. Turnbull to illustrate geographical apparatus on Thursday.

Meeting adjourned.

August 16, 1877.

The meeting opened in the usual form. Mr. Alexander in the chair.

Minutes read and confirmed.

- * Dr. McLellan gave a lesson of an hour's duration on Arithmetic, discussing the merits of the ancient and modern systems of teaching the subject, illustrated by solutions of various problems. A vote of thanks was tendered at the close of the lecture.

The officers of the Section were then chosen, as follows :

Chairman—S. McAllister, Toronto.

Secretary—H. Dickenson, Stratford.

<i>Executive Committee</i>	{	D. Johnson, of Cobourg. R. McQueen, of Kirkwall, W. R. Harvey, of Barrie. C. Sangster, of Belleville. J. Hughes, of Toronto.
--------------------------------	---	--

An Institute lesson on Object Lessons was then given by Mr. Hughes, Public School Inspector for the city of Toronto.

The customary vote of thanks was passed.

Moved by Mr. Dickenson, seconded by Mr. Burgay,

That inasmuch as the three Sections constituting this Association had representation on the late Council of Public Instruction; and that by the abolition of the Council of Public Instruction this representation, granted by the Legislature, was by that body abolished; therefore be it resolved, that the Hon. Minister of Education be humbly requested to grant us Sectional representation on the Central Committee.—*Carried.*

Meeting adjourned.

PUBLIC SCHOOL INSPECTORS' ROOM,

August 16, 1877.

The Public School Inspectors' Section had two sessions—one on Wednesday morning, the other on Thursday morning—at both of which J. H. Smith acted as chairman, and James C. Brown as secretary.

At the former the chief topic of discussion was the proposed model school, much light being thrown upon this matter by G. W. Ross, Esq., to whom a vote of thanks was most cordially given.

On Thursday morning the Section adjourned for the purpose of hearing Mr. McLellan's remarks on the method of teaching arithmetic.

On resumption, after a desultory discussion on the matter of school registers and model schools, it was moved by Mr. J. R. Miller, and seconded by Mr. Scarlett,

That the resolution of 1876, concerning registers, be re-affirmed by this meeting, and that another committee be appointed to consult with the Minister of Education; said committee to consist of Messrs. Ross, Smith, and the mover.—*Carried.*

OFFICERS ELECTED.—*Chairman*, Dr. Kelly. *Secretary*, James Hodgson. *Members of Executive Committee*, Messrs. Kelly, Moran, Carson, Agnew and Purslow.

JAMES COYLE BROWN,
Secretary.

HIGH SCHOOL MASTERS' ROOM,
Education Department,
August 15, 1877.

The High School Masters' Section met this morning at 9.30.

Present — Messrs. MacMurchy, A. Miller, Purslow, Strang, Andrews, Robinson, John Millar, Tamblyn, Robertson, O'Connor, Hodgson, Cruickshank, Herald, Crozier, Mills, Anderson, Seath, Dawson, Alex. Carlyle, Orr, Ballard, Sullivan, Grant and Oliver.

The meeting having been called to order,

Mr. MacMurchy was appointed chairman, and A. Miller secretary.

Mr. Purslow, Port Hope, read a brief and excellent paper on the new "University Curriculum." Considerable discussion followed, the following points being chiefly dwelt upon, viz.: The desirability of giving more prominence to English and natural science, particularly chemistry, at the Matriculation Examination.

Objections were made to the difficulty of the honour classics at matriculation, the age limitation in the case of candidates for scholarships, the degradation of the Prince of Wales' Prize, and to the short notice given of the changes to come into operation in 1878. It was also considered desirable that some definite textbook on English grammar be mentioned. The present condition of the curriculum was attributed to the want of knowledge on the part of the Senate of the effect of the changes upon the High Schools.

Mr. MacMurchy having been called away, Mr. John Millar took the chair.

The following gentlemen took part in the discussion :

Messrs. Seath, J. Millar, Robinson, MacMurchy, A. Miller, Strang, Robertson, Andrews, Mills, Tamblyn, Grant and Purslow.

The following resolution was then unanimously adopted :

Moved by J. Seath, seconded by N. J. Robertson,

That in the opinion of this Section, the claims of natural science to a place in the modern system of education should be recognized by our University authorities in their Matriculation Examination.

Moved by Mr. Purslow, seconded by Rev. Mr. Grant,

That the Secretary of the High School Masters' Section be requested to communicate with the authorities of the Law Society, and urge the desirability of having the subjects laid down in the new University curriculum adopted by them, as in the case of the former curriculum, as the subjects of examination for entrance into the Law Society.—*Carried.*

August 16, 1877.

Dr. Crowle took the chair during temporary absence of Mr. MacMurchy at 9.30 a.m.

Present—Messrs. Seath, Robertson, Crowle, Tassie, Andrews, Crozier, Purslow, Robinson, Dawson (Belleville), John Millar, Mills, Sullivan, A. Miller, Strang, Halls, Bryant, Kemp, Davis, Murchie, Hicks, Hunter, Dobson, Shaw, MacMurchy, Hodgson, Ballard, Tamblyn, Grant, Anderson, O'Connor, McMichael, Cruickshank, Orr, Tilley, O'Connor, Clarke, Dawson, and several others whose names were not ascertained.

The Minutes of the former session were read and adopted.

Dr. Tassie, Galt, gave some explanations with reference to his action concerning the University curriculum.

Mr. Seath discussed, at considerable length, the present system of Intermediate Examinations.

Mr. Inspector Buchan was present at this session, and addressed the Section, pointing out some of the advantages of the present system of High School Examinations.

In the discussion upon Mr. Seath's paper the following gentlemen took part: Messrs. Dawson, John Millar, Robinson, Hicks, A. Miller, Crowle, Dr. Tassie, Clarke, Mills, Anderson, Oliver, Tamblyn and Hodgson.

It was moved by Mr. Dawson (Belleville), seconded by Mr. Robinson,

That in the opinion of this Section it is advisable that the minimum test at the Intermediate Examinations should only be applied to the several groups, and not to the separate papers as at present.—*Lost.*

Moved by Mr. Seath, seconded by Mr. Tamblyn,

That some provision should be made for deciding appeals from the finding of the examiners and sub-examiners at the Intermediate Examinations.—*Carried.*

Moved by Mr. Seath, seconded by Mr. John Millar,

That the Section adjourn, to meet again this evening.—*Carried.*

EVENING SESSION.

The Section met according to adjournment; Mr. MacMurchy in the chair.

After some informal discussion, the following gentlemen were elected members of the Executive Committee from the High School Masters' Section: Messrs. Seath, Dawson, Tassie, Mills and Dickenson.

The Section then adjourned *sine die*.

The Committee on the Distribution of Legislative and Municipal Grants, Township Boards, and Equalization of Assessments, report as follows:

DISTRIBUTION OF LEGISLATIVE AND MUNICIPAL GRANTS.

1. That in addition to the present legislative grant to public schools, the Government should give to every section employing a second class provincial certificated teacher the sum of \$10, and to every section engaging a first class provincial certificated teacher the sum of \$20; and that the municipality in which such teachers are employed be required to grant to each section so employing them a sum equal to that contributed by the Government.

2. That the legislative and municipal grants to townships be discontinued, and that in lieu thereof grants to inspectoral districts be made, in order that the present unequal distribution may be remedied, and that they be apportioned on basis of average attendance in the said inspectoral division.

TOWNSHIP BOARDS.

1. That it shall be the duty of the chairman of every annual meeting held in each school section to take a vote of the ratepayers then present on the matter of the establishment of Township Boards, and that a special meeting may be called at any time during the year to consider and decide upon the question, and that in all cases the matter shall be decided by a majority vote in a majority of the sections in the municipality.

2. That in the organization of every new municipality, provision be made for the institution of the Township Board system in the management of its school affairs.

EQUALIZATION OF TAXATION.

That in order to equalize taxation where the system of Township Boards may not be adopted, the following amendments to the present law are recommended :

1. That the municipal council of each township be required to levy an equal school rate upon all the taxable property of the municipality, and to pay therefrom each year to the local trustees of each section a sum equal to at least two-thirds of the average salary of teachers in such municipality during the year then last past.

2. That sections in which more teachers than one are employed shall be entitled to receive a sum equal to two-thirds of the ordinary sectional grant for each assistant employed.

3. That each union school section shall receive from each of the municipalities out of whose territory it is formed, that proportion of the ordinary sectional grant for such municipality which the equalized assessment of the portion of the section within such municipality bears to the whole equalized assessment of the section.

PAPERS READ
BEFORE THE ONTARIO ASSOCIATION
FOR THE ADVANCEMENT OF EDUCATION.

PRESIDENT'S ADDRESS.

WILLIAM CAVEN, D.D., PRINCIPAL, KNOX COLLEGE.

DISCIPLINE IN SCHOOLS:—ITS OBJECTS AND METHODS.

I have to return sincere thanks for the honour you have done me in electing me to the office of President of this Association. I much regret that my absence from the country at the time of the Annual Convention prevents me from having the great pleasure of meeting with the teachers of Ontario, of witnessing their proceedings, and of listening to the highly interesting discussions of important questions relating to education which will be held during these days.

The utility—the great value—of this Association as an instrument of educational advancement is evident, and does not need to be dwelt upon. It cannot but prove of the highest importance to educational interests that so many of those who are most closely connected with the work of instruction, and who, from their studies and attainments, are pre-eminently qualified to express an opinion upon the several questions which come up for discussion in the educational sphere, should have such an opportunity of presenting their views to the public as the meetings of this Association affords, and thus of contributing to the intelligent settlement of these questions. In the discussion of political problems it would not be expected that the members of parliament should forbear to take a part; in questions of theology it were unreasonable to forbid the ministers of religion to express their opinion; and when teachers make their voice heard upon questions of education, they are doing not only what they have a perfect right to do, but what, we may say, the community has a right to expect of them. It is at once their privilege and their duty to bear a part in the determination of such questions, in accordance with the superior opportunities of studying them furnished by their professional position and training. No feeling of modest unwillingness to anticipate the judgment of the general community should restrain the educational worker from giving his opinion freely upon such questions as they come up for settlement.

Topics and matters of the kind alluded to have been considered in the annual meetings of this Association from the time of its organization; and several such topics of specific character will fall to be dis-

cussed during the present convention. Leaving the consideration of these interesting and important subjects affecting school legislation, and the details of the teacher's work, to those who are better conversant with them than I can profess to be, you will permit me to offer a few observations on a matter of more general character—the matter of *Discipline in Schools*. The subject is indeed too large to be treated in any exhaustive way in a brief address; and all I can hope to accomplish is to bring before you some of the more obvious aspects in which it may be viewed. I trust that no undue dogmatism will appear in the enunciation of opinions which are nevertheless earnestly held, and believed to be practically important.

No one will dispute the proposition that there is a discipline proper to be maintained in schools, and that the maintenance of it implies the exercise of *authority* of some kind, and in some degree. The school can no more dispense with discipline than can the family, or the church, or the state. So evident is this that the most strenuous humanitarian, so far as we know, has not denied it. The ends which discipline seeks to gain are such as these: First, the securing of order, and the prevention of improper conduct on the part of pupils while in school. Pupils cannot be allowed to come to school and leave it at such hour as they please, to sit in what seat they please, to join what classes they prefer, to go out and in as they see fit. Nor can they be allowed to disturb the work of the school by unseasonable noise; nor to strike or molest their fellow pupils; nor to use improper language in addressing either their teacher or fellows; nor to injure the furniture of the school, or the books and apparatus of other pupils, or any property connected with the school. Whatever opinion may be formed as to the responsibility of the teacher for his scholars' behaviour when distant from school, it cannot well be denied that the discipline of the school must seek to accomplish the end here pointed out. Otherwise the school cannot do its work: it cannot be the instrument of either intellectual or moral benefit. The worst-conditioned schools do, as a matter of fact, endeavour to enforce some sort of rules as to order and conduct. But any considerable degree of failure to preserve order in school, and to restrain improper conduct, greatly impairs its efficiency and usefulness. We can all recollect instances in which the manifest inability of a teacher to govern his school has neutralized qualifications which would have made him an excellent instructor.

Again, the discipline of the school aims at securing the diligence of the pupils in study, whether in school, or at home in the preparation of lessons. Such diligence is of course necessary in order that the end of appointing the school may be served. The special object of the school is to educate those who attend it—to secure progress in the various studies which are pursued, and in the mental development and the culture of the pupils: obviously, therefore, it is not sufficient that order be preserved and that improper conduct be prevented. The pupil cannot be allowed to neglect his work and to waste his time, whether in school hours or in evening hours which should be devoted to preparation for school. A proper measure of activity and of labour must be insisted on—enforced—or else the work of the school cannot go forward.

I am not, you will please observe, expressing any approval of the practice of prescribing extremely long tasks to children, especially young children, to be performed out of school. Perhaps you will even allow me to say that some schools (for there is no ground, I am sure, for any general charge) are certainly faulty in this matter. Quite young children will have, *e.g.*, a great deal of arithmetic assigned for the evening. I have known a child of ten or eleven years of age having sums prescribed which would require very earnest application for perhaps an hour and a half or two hours in working them out and transferring the process carefully to paper. Now this seems to be quite unreasonable, and not a little fitted to discourage; and inasmuch as many pupils will inevitably fail to come up to such requirements, the result is injurious to the discipline of the school. Home hours must be utilized, no doubt, in committing rules, &c., to memory, and in preparing lessons of various kinds; and in the case of more mature pupils it may be very proper to prescribe a little arithmetic; but no good can result from overdoing the matter, and imposing tasks impossible of performance except by children who are both clever and of great physical endurance. But whilst taking the liberty of putting in this word of protest against injuriously attempting too much, it remains perfectly obvious that the discipline of the school must enforce a due measure of application to study on the part of all attending it.

Still further, the discipline of school contemplates the moral improvement of the pupils. If any shall object that schools are established for educational purposes, and that however true it may be that the moral advancement of the pupils is the highest of all possible ends, yet this end cannot, without losing sight of the purpose of the school, be primarily sought, we are ready to admit that there is a measure of truth in the statement; but surely any conception of education which leaves out moral cultivation must be seriously defective. The secular school is not a religious institute, and does not profess to occupy the same field as the Sabbath school, or the church, or the family; but, nevertheless, it cannot divest itself of the character of a moral appliance (its glory were gone should it succeed in doing so); and it must, therefore, be of the highest consequence that its moral tone should be right, and that its entire work and regulations should tend in a proper moral direction. Moral improvement may not be *primarily* sought, but everything will be arranged—everything conducted—in remembrance of the fact that the moral sphere is supremely important; and that an education purely intellectual in its results—if such an education, indeed, were possible—would not fulfil the end which all wise and good men, all wise communities, have sought in the establishment of schools.

My point then is, that, in respect of this end, the discipline of the school (taking the term in its widest sense) is all important. If there is no discipline, or bad discipline, all interests, intellectual and moral, will suffer together; and the young people will come together not for the better but for the worse.

Now, it is a subject deserving most careful consideration *in what way*—*by what means*—the discipline of schools can best be maintained, and the important ends therewith connected in largest measure secured.

And here no one, I am sure, will say that the rod is the only instrument of discipline, and the only support of the teacher's authority. All will allow that the *personal character, the habits, and the deportment of the teacher* are of the greatest consequence in this regard. In preserving good order in school, in checking and preventing improprieties of conduct among the pupils, in securing diligence in study, and in the foundation of right moral character in his youthful charge, nothing must be named before the character and ways of the teacher himself. Influence, conscious and unconscious, by which his pupils will be affected and moulded, will go forth from him all the time. We know that human beings brought closely together, under any relations, reciprocally affect each other; that the influence of character, whether good or bad, cannot be restrained in its diffusion; and that in this fact there resides very great power, which may be used to great results by the teacher. For the teacher occupies a place of exceptional advantage for the exercise of influence. His official authority and his superior knowledge put him in a position in which his moral qualities have fine opportunity of gaining a benignant ascendancy over his pupils. He may reign among them as a king, exercising an authority which, if united with wisdom and love, is little liable to be questioned.

It is worth while dwelling for a minute upon those elements in a teacher which cannot fail to gain for him the power of command alluded to. They are such as these: Uprightness and justice, so clearly manifested in his government of his school, that no scholar can fail to see them; perfect truthfulness, so that no scholar can doubt that the words of the teacher are meant to take effect; command of temper, and patience with the dull and even the perverse; kindness; deep interest in the progress of his pupils' studies and in their general welfare; a dignity perfectly consistent with the utmost kindness, which makes it difficult for the pupil to encroach upon his prerogative, or take undue liberties in his presence. And this dignity must be quite distinct from pomposity and official consequence; for these are things which the keen satirical eyes of young people will not readily confound. It is also indispensable that the teacher should be thorough master of the subjects on which he gives instruction, thoroughly acquainted with the ground over which he would lead his class; and if once the discovery be made that his knowledge is imperfect—that he is apt to blunder when any point in the least new, though pertinent, is raised, or even that he is living from hand to mouth, as we say—it will be very difficult to preserve his authority unimpaired. Farther, the teacher must exhibit the same diligence and love of learning to which he would exhort those under his care. To say all more briefly, the teacher must be a good man and entirely competent to do his work.

Now all will agree with me in saying that, in regard to the maintenance of discipline, we cannot over-estimate the value of such qualities as those enumerated; and that if these qualities are signally wanting, nothing can be a substitute for them. But the question still remains whether any *power* in addition to that involved in these moral elements is required by the teacher in conducting his school. "Yes," some will reply, "there must be the right of expelling pupils for confirmed insub-

ordination and certain other grave offences; this will suffice." We admit that expulsion from school is a severe penalty, and that the authority of discipline is much reinforced by it. There are certain cases in which it is quite necessary to use this power. There may also be schools of a certain character in which no other punishment is needed. But the question remains whether *the use of the rod* in our public schools should be entirely prohibited, and the moral authority of the teacher, backed by the right of expulsion and suspension, be exclusively relied on for maintaining discipline.

Now we quite agree with those who condemn the excessive use of the rod which was wont to obtain in public schools in most countries, even as too great severity may have prevailed in the discipline of many families. Very severe things might justly be said in reprobation of a system which appealed too little to the conscience and the better nature of the young, and gave a painful prominence to the element of brute force. The esteem with which many painstaking, conscientious and successful teachers are remembered by their pupils, is sadly qualified by recollection of the terror with which they were almost uniformly surrounded; and those who as "boding tremblers" watched their "morning face," can scarcely recall their image, even in mature years, without some renewal of their early alarm. But the same change in human opinion and sentiment which has so much decreased the number of capital offences, which has nearly abolished flogging in the army and navy, which has reformed prison discipline, has also brought greater gentleness into the government both of families and schools. And no doubt this change is a substantial gain to humanity: it is in itself a right and Christian thing. We must be careful, nevertheless, not to go beyond the proper line, and in the greatness of our reaction against an excessive severity, take ground which is not less opposed to a true experience and to the spirit and teachings of Scripture, than the ground which has been abandoned.

Our opinion, we hesitate not to say, is that the rod cannot with advantage be altogether dispensed with in schools. We have already tried to emphasize the value of moral influence in the government of schools, and have allowed that in certain cases expulsion may be a very proper and indeed necessary penalty. Expulsion, however, simply throws the entire responsibility of dealing with bad boys upon their parents, and in many cases is a punishment to the parents rather than the children. To many boys, expulsion, unless followed up by a pretty rigid discipline at home, is no punishment at all. There may be cases indeed where parents who have entirely neglected the discipline of the home *deserve* to have their unruly children cast upon their own hands. But the question is one of general, of public interest, and must be considered in this light; and unless the abolition of corporal punishment shall prove a public benefit, it is little consolation to know that fathers and mothers who have neglected their duty have to suffer very severely in consequence.

The question, it seems to us, is one to be decided by experience rather than by any abstract and general principles. So far as general principles are concerned, considerations as to the parties to whom authority

over the child is vested, we can see little difficulty. Of course that authority is not primarily vested in the teacher ; but why may not a certain measure of it, for a definite purpose and under proper guarantees for its exercise, be delegated to him ? Why may not the parent convey some portion of his authority to one who is doing what may be regarded as primarily the parent's work ? Or why may not the State delegate to him authority within certain limits ? The magistrate, as an individual, has no authority ; but the State clothes him with authority for the purposes of his appointment. If the control of education properly belongs to the State, the State may obviously convey to the teacher all the authority which may be profitable in the discharge of his functions ; and if such control belongs to the parent and the State conjointly, these parties may obviously unite in such conveyance. To deny this is to limit both parent and State quite unnecessarily. Thus the whole question becomes one to be decided on grounds of prudence and expediency. If it is found that teachers cannot exercise the authority of the rod without injury to their office or to the character of the child, let such authority be withdrawn from them ; but if experience has no testimony of this kind to bear, then let no undue reaction against an almost obsolete system of severity lead us to maim the teacher or tie up one of his hands. We are really not aware that those who oppose the use of the rod *in toto* have any practical demonstration of the success of their views to adduce ; and in many instances, certainly, these views are supported by arguments which would deprive the parent, the teacher and the State, equally, of all right in any case to use force. If it be said that teachers when invested with the power of the rod may be too severe, or may inflict chastisement on occasions not calling for such discipline, or may act in so great heat of temper as to deprive the chastisement administered of the character of discipline, the same may obviously be said both of parents and of civil authorities. The truth is that *power*, in every exercise of it, by any parties, may be abused ; and what is needed is that the possessors of power—those called to exercise authority and force—shall be characterized by wisdom, justice and benevolence. These are our safeguards. Let these be required on the part of teachers—be considered indispensable qualifications—and there will be no necessity for taking the extreme ground which many excellent and humane persons seem disposed to occupy.

The wise and competent teacher will seek to secure, and to a large extent will secure, the co-operation of his pupils in maintaining the discipline of the school. The influence of his character, apart from any admonitions to this effect, or any law of the school, will enlist on the side of order and good conduct all the rightly disposed among his charge. The honour and efficiency of the school will not be a matter of indifference to them any more than to him. They will be zealous in rendering to him such service as they can in improving and elevating the character of the school. A teacher who entirely fails to secure this co-operation must be, in some respect, unqualified for his work ; and it will be hard for him to do, by the mere strength of his own arm, what many willing hands should be found prepared to assist him in doing.

We need not go into details in showing how pupils can successfully aid their teachers in this important work. It is certainly not meant that tale-bearing should be any part of an approved system in the government of the school. Very little assistance could be rendered to the teacher by any practice of this kind, and its pernicious effect upon the character of pupils would not be less marked than in other cases where it is practised. Pupils must not be asked or encouraged to do anything inconsistent with the utmost propriety and delicacy of feeling and the utmost self-respect. We do not think well of governments which depend for security upon a system of espionage; and certainly the school and the family should be free from anything so questionable in its tendency. Whether pupils may not be required, in cases of sufficient importance, to give evidence as to the conduct of other pupils, is a point of very considerable importance, and is not at all decided in the negative by the aversion which we very properly cherish towards the habit of tale-bearing. In other cases, tale-bearing and witness-bearing would not be confounded; and no part of the odium attaching to the former would fall upon the latter. Witness-bearing is clearly a duty—is regarded as such by all moralists—when the proper authorities require it of us. When a person in court gives the testimony on which the murderer, the house-breaker or the thief is convicted, he is not held to do a discreditable thing: rather he is regarded as rendering an important service to society; and he is considered as justly liable to punishment should he refuse to give the civil authorities the benefit of his knowledge. The distinction here pointed out would be recognized as valid in the sphere of the family also. The only thing necessary, therefore, to make it right and proper that the teacher should demand the evidence of scholars upon matters of sufficient importance is that he should be recognized as vested with a degree of magisterial or parental authority. Authority of this kind, as touching some other matters, he certainly has, otherwise he dare not use the rod. The points to be determined are whether the government of the school would really profit by the teacher's having power to demand the evidence of pupils, and whether teachers as a class are persons who may be safely trusted with the exercise of such authority. Those who regard teachers as, on the whole, equally qualified with parents to inquire into the conduct of young persons placed under them, and who think it advantageous and right that mischief and wickedness should be detected and punished, will be disposed to answer the question in the affirmative. In any case, there can be no good ground for thinking that a pupil is degraded by disclosing his knowledge of the violence committed or the dishonesty practised by a fellow-pupil. Teachers may of course abuse the power of inquisition; but so may parents and magistrates. Pupils may suffer from the revenge of those whose evil deeds they have brought to light; but so may persons who have given testimony in a court of law. But whilst holding with clear conviction the view now expressed, I would again declare that the discipline of the school should, above everything else, rest upon the high personal character and the perfectly adequate attainments of the teacher, and that the law of kindness should in everything prevail.

TEACHERS AND THEIR MISSION.

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Education, the promotion of which is the mission of the teacher, is not often discussed outside of professional circles. This is partly the case, because it is supposed that educationists alone are competent to deal with the somewhat abstruse, numerous, and often disputed details of this great subject; and partly because the subject itself lies vague and undefined in many minds. It seems to be taken for granted that the masses have nothing special to say about education, or that they all have an adequate conception of the meaning of the term. There cannot be a greater mistake than to suppose that education belongs to a particular class, either as imparters or recipients thereof. If ever there was a theme that came home to every creature who has any mind, whatever may be his sphere in life—if there is one subject which more than another demands the most serious attention of those who make teaching their life work—the attention of parents, who are all educators, and of children who are all to be educated—if there be a theme which demands the most careful study of the statesman, the philanthropist, or the Christian—that is education. Much of the indifference which prevails in regard to this subject arises from downright ignorance, from a want of any adequate conception of what education is, of whence it comes, of how it is imparted on the one hand, and how acquired and mastered on the other. Yet many would be much offended if they were told that they did not understand the meaning of the term, education. Not understand the meaning of the term! Why, it is one of the most common words in the English language. It is in everyone's mouth. It would be much more proper to ask who does *not* understand the term, than to charge the many with not knowing it. Every schoolboy knows it comes from the Latin word *educo*, to lead forth. All this is very smart and very true, but tens of thousands who know as much as this are nevertheless profoundly ignorant of the true meaning of this very common word. They know not the countless influences which contribute to the mighty result called education. They cannot tell whence these influences come, nor point out whither they go. They have never sounded the depths nor soared to the heights of this subject. Scarcely any two men use the term education with the same latitude of meaning. The education they severally speak of is not made up of the same constituent elements. I hold that the word education should be used in the plural number—*educations*. The forces which are used in its production, the elements which are woven into the thinking substance of the educated man, the breadth and colour which may be given to it, the height to which it may be carried, the aims which may be kept before the mind—are all so diverse and infinitely varied, that the results

called education cannot possibly be the same. Shall we as teachers confine ourselves to the training of the intellect merely? Shall we not give heed to the moral principles also? Shall the child's religious nature receive any information and direction? Shall his social habits be seen to? And shall any attention be paid to the physical nature? All these are elements in the child's nature which require proper attention and culture. Yet how many, or rather how few, enjoying the highest advantages which this country furnishes, have had their *whole nature* properly trained or disciplined? How many are there with cultivated intellects and bad principles, moral and religious? How many are allowed to destroy their health while they are securing what is called an education; and how many carry off high honours and retain the manners of a boor? True, education is a wondrous thing. It is like the fairy tent given by Peri Bann to Prince Amgid, in the Arabian Nights, so small that it may be hid in the hollow of the hand, and so large when pitched, that it can shelter the mightiest army. A young lad may be said to be educated, and well educated, and yet the greatest scholar the world ever saw is nothing more than this. Considered with reference to some practical end in life, it may be regarded as complete or finished; considered as the complete development and discipline of an immortal mind, it is never finished. We may think of the highest attainments in knowledge, in the power of apprehension and reasoning, in perfection of will-power and purity, yet made by the greatest of merely human beings that has ever lived, and we can conceive of a point in the never ending future, when the mind that is now simply rational will far surpass this measure of acquired forces. Education in the proper sense is the giving to a human being the full control and direction of all the faculties which his Creator has bestowed upon him. And these faculties must be in a disciplined state. They must be stimulated, taught right habits, and subordinated. If only a portion of a man's capacities are stimulated, informed and directed, then he is only partly educated. If they are all perfectly developed, then he is perfectly educated. If this be a proper conception of this great theme, if the statement I have made be admitted to be substantially correct, very important and far-reaching conclusions follow. Mere State education must come far short of perfection even when it reaches its highest development. But I shall not enter upon this. Another point much more nearly concerning us as teachers, and much more under our control, may be considered. If education be such a high, noble, and far-reaching work, what manner of persons ought we as teachers to be—we who are artificers in this work? The extent and completeness of the education which young Canadians shall receive, depends after all very much more upon what the teachers are and do than upon the Government. We mould the young people by the example we set, and by the principles which we impart. What we are in spirit and character will, both consciously and unconsciously to our pupils, perpetually exercise an influence upon them, while the manner and matter of our instructions will fashion and shape their modes of thinking.

The great science of teaching has been supposed to differ greatly in the different grades of schools in which it is active. The teaching of

the Common School is supposed to differ widely from the work done in the Grammar and Collegiate Schools; and the teaching done in these again differs from that of the University. This notion conveys, in my opinion, a little less than a half truth. The subjects taught in these three classes of schools are different from each other, but the work of planting them in the minds of the pupils is substantially the same. Teaching in its nature, through the whole range of subjects, retains the same essential elements. Every mind which is well taught must be stimulated, informed, and directed. Its forces must be developed, it must be instructed, its habits must be formed, and its will-power disciplined. No person can be said to be well taught of whom these things can not be predicated. In the Common School what teacher does not know the importance of stimulating the pupils' minds—of arousing their attention, and awakening their ambition? Those teachers can never do much with their pupils who cannot stir their souls and make their eyes flash. Such cannot impart what they know, and cannot interest their pupils in their instructions, so that they will remember them. The success of a teacher depends much more upon the possession of this faculty than upon the extent of his knowledge; our efficiency depends upon our own power to take in knowledge, and more particularly upon our power to communicate it, or to give it. Many a teacher drives his learning so far in that he cannot get it out again, or, like some plasters, spreads it so thin that it won't stick. He must possess or acquire the power to awaken and arrest the attention of his pupils, else he cannot largely succeed. What I have said on this point is true at every stage of the pupil's career. His mind must be awakened, and his attention be secured in the Grammar School, Collegiate Institute and the University. What is the line, for example, between the work of the teacher in the Collegiate Institute and the professor in the University? Just when does the work of the one end, and that of the other begin? The distinction or line is purely imaginary, and when carried out to the extent to which it is often done, it is mischievous. It is carried too far even in this country. So far as the professor in the University, the masters of the Collegiate or Grammar Schools, or the teachers of our Common Schools, do good work upon the minds of their pupils, it is essentially the same. They have aroused these minds, they have instructed or taught them, they have directed or formed their habits. Before passing to some of the essential qualifications of a good teacher, which I wish to speak of, I may remark that in my estimation the Common School teachers occupy in some respects the most important position among all the teachers or professors of the land. They are laying the foundations upon which all the others have to build. If these foundations are laid upon the sand—if the true square and plumb line have not been applied, what mischievous results must follow! We ought to have the very best teachers to lay the foundations of education. If pupils are started wrong, it takes them a long time to right up, if they ever do.

There are but two professions in Christendom exclusively devoted to the elevation of the human race; there are many which are subsidiary to human advancement, but only two exclusively devoted to human

elevation, *i.e.*, preaching the gospel and teaching. The first aims chiefly at raising the moral and religious nature of man, the second at the raising and development of the intellectual ; but neither is exclusively confined to one class of his pupils' faculties. The minister cannot perform his work without largely enlightening and disciplining the intellectual powers of his people ; nor can any teacher, by the utmost exercise of his care to avoid doing so, influence and mould the intellects of his pupils without largely influencing also their morals and religion. No legislative statutes can prevent this ; and no jealous watchfulness of sectaries can wholly guard against it. If teachers are not directly or indirectly benefiting their pupils morally and religiously, they are assuredly injuring them. This position cannot be fairly questioned. Ministers stamp their image upon the people to whom they preach. When the tone of the ministry is low, when religious teachers are ill taught and narrow minded, or loose in moral and spiritual things, they will infallibly find imitators among their hearers, and beget spiritual children in their own likeness. They realize the prophetic proverb, and are "like people like priest." What may be said of the ministry in this respect may, to a large extent, be said of the teachers of our young people. There is a direct and an indirect teaching going forth from all professed instructors which go far toward forming our young people into their own image. No teacher can be ill tempered, loose in his morals, or sceptical in his religious views, or loose and careless in his teaching, without letting pupils know. And though he never consciously imparts to them a lesson on these points, they will, as it were, intuitively sympathize with his states of mind, be impressed with his views, and imitate his habits. The temper, the manners and the spirit of the teacher will infallibly be imitated and adopted by those who are daily under his care. This thought must be most comforting and cheering to the high minded and conscientious teacher ; but what is it to him who is the reverse ? It must be a matter of deep regret if we contribute nothing to raise or benefit our fellow men ; but what must be the reflection that we have contributed to pull them down and degrade them—to send them backward and downward from shame unto shame ?

But perhaps I have indulged long enough in remarks of a merely general nature, albeit they relate to important aspects of your great life work. Permit me now to direct attention more particularly to some of those qualities which I deem essential to a really good teacher.

1. I think a teacher who would stand in the first rank must heartily love the work of teaching. I do not think any man can do his very best if he do not love the work in which he is engaged. I do not at all question but that a man of superior ability may do well various things, in which he may feel no great interest. But how much better could this same man do his work if his whole heart were in it ? How patiently would he strive to master his loved employ ? How anxiously would he inquire after the best models ? And how promptly would he set aside all past attainments while he reached forward towards higher and better. In the work of instruction teachers as a class are yet very far from having reached the highest efficiency. If the saying may be adopted in any profession it may assuredly be adopted in that of

the teacher—"There is plenty of room up higher." And to reach the best results as teachers, I say they must *love their work*. They must throw themselves into the struggle early; like Jacob, wrestle with the angel at the dawn of day. At the present time much of the instruction imparted to our young people is given by those who make teaching only a stepping stone to something else. And though many of these make very good teachers, yet they have no motive to put forth their best efforts to excel in their temporary employment. It is to be feared that this drawback will exist in Canada for a very long time. Teaching in all its grades is well worthy of being exalted into a profession and a life work. The work of forming and developing immortal minds, so grand in its results, so lasting in its effects, is well calculated to call forth the interest and enthusiastic attachment of any generous mind. The impress of the teacher upon the soul of his pupil can never be effaced. Every sentiment which he writes upon the mind of the child remains indelible forever; like a certain kind of fruit sometimes eaten by wild fowl, so penetrating and powerful that it taints their flesh and colours every bone in their bodies, or like a kind of indelible ink, which so affects the substance on which it is written, that you may burn the substance in the fire and the writing will remain still legible in the cinders.

Those who love teaching will also, I think, generally love the children, who are to be the future men and women of our country. These young immortals, when they first come under the teacher, have to a large extent all the world before them where to choose, and oh! how much the teacher contributes to make their choice wise or otherwise.

2. I would remark that a true teacher must feel that he has a mission, a vocation, or call to his work. As a general rule, a man is called to do what he on the whole is best adapted to do. If this be true, what multitudes have missed their calling, and are in other people's way. There may be exceptions to this general principle, but few will deny that many considerations support it. It seems to be sustained by the well known argument from design, which is troubling sceptics in our day so much. If a person is created with an evidently special capacity to do this or that good work best, we can scarcely avoid the conclusion that his Maker had a design in regard to him; else we cannot depend much upon the argument drawn from design, and special aptitudes. It is true there are those whose specialty we cannot easily trace, simply because they cannot do anything well. Others we find can do all things equally well; they are jacks of all trades and masters of none. Teaching is sometimes taken up by persons, not because they have any special interest in the work, but because it is supposed to be a kind of easy and respectable life. Alas, what a blunder! This class will soon find that they are on a treadmill, where they must move on, or go down forever. Respectable, if you please, but never easy. I say a true teacher should feel that he has a mission, a life work assigned to him. Some ridicule, as a mark of intolerable conceit, the notion that one has a special mission. As I have said, it is not easy to ascertain in many cases what men are fit for, but it is equally true on the other hand that nearly all who have done much for the world felt that they had a special work

or vocation. So, if the teacher would rise to the full conception of the grandeur of his work, he must feel that he has a mission, one of the grandest which the Creator has given to his creatures, and he is going to live up to it in the Great Taskmaker's eye.

At this point I may notice a disturbing element which is far reaching, and mischievous in its effects—I mean the small remuneration which is generally given for the teacher's services. This operates largely in keeping down and depressing teachers who have entered upon their work. They have not the means of improving themselves and keeping up with the demands of their profession. And it prevents many of the best minds from seeking this employment. We hope for a general, though perhaps slow, improvement in the remuneration of teachers as the country increases in wealth and its appreciation of education. I admit that this is something of a hindrance to the rapid and high elevation of the teacher's profession. But, on the other hand, has not this drawback been made too much of? I know that largely remunerated teachers are the exception and not the rule. But I remark, is not the same true of nearly every pursuit in life—even when the making of money is the great aim? It is said one man in thirty who enters upon mercantile life makes money, and twenty-nine fail or make a bare living. How is it with physicians and lawyers? How few of them acquire wealth, and how many barely live. It seems never to have been intended that the many in any pursuit should amass wealth, while the few only come short. This is true even when the great aim is to acquire wealth—money, more money! Here it may be well to ask what is a large salary, or an adequate remuneration? It has no fixed or determinate value, and we cannot therefore make it the measure of our services or of the value of our work. Secondly, those avocations whose sole or chief remuneration is money all tend to degrade their votaries. In all the noblest and highest pursuits or employments in life the pecuniary element is only a very secondary one. Whenever it is brought out of that relation it degrades the employment and lowers the employee. The true rewards in these pursuits are the ennobling, elevating, and refining influences of the pursuit upon ourselves, and the benefit it confers on others. This view is worthy of the serious study of the teacher. His work is that of a benefactor; it has the elements of true philanthropy in it. He is conferring vast and priceless benefits upon individuals and upon society. If he receive comparatively little salary, his work enlarges and elevates his own mind, and furnishes him with pleasant reflections for life. Thus he learns by experience the full import of the inspired utterance that a “man's life consisteth not in the abundance of the things which he possesseth.”

3. Teachers should be exemplary in every respect. We cannot take the ground that every teacher should be a Christian in the strict sense of that word (yet I most heartily wish that all were truly such), though we can insist that they should be pure in morals and life, that they should be high minded and generous, that they should have duly considered and appropriated to themselves whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are of good report. Only think of

a mean, sneaking, underhand school teacher—one who will do petty things. Think of a false, cruel, treacherous one, or of an impure or immoral person teaching children ! It only requires that we should think of one of these epithets to make us turn with thorough disapprobation from the person to whom it may be righteously applied. Neither the confidence of the pupils nor that of their parents can be bestowed upon any teacher whose life is not exemplary.

4. A teacher should be well educated. This, as the French say, “goes without saying.” It is like a *gerund in dum*, elegantly understood. No one can teach what he does not know, and no one can teach well what he does not know well. Yet these all but truisms will bear to be turned over and looked at. Take a teacher when he first begins. He has attended some school where the prescribed course of study is laid down for him. He must at least answer the minimum number of questions in order to get a certificate. Necessity, or it may be a very imperfect conception of what will fit him to teach well, makes him turn from every subject not essential to secure a certificate as useless to him. He will study only enough to get a certificate, and enable him to earn his living. Science studied with such an aim as this the Germans call bread and butter science ; and so the education which I have described may be called a bread and butter education. I do not deny that a pupil preparing to teach may have, in the first instance, to confine himself to the course of study prescribed for teachers ; but they should never forget the imperfection of their course considered as education. Though a person could answer 90 out of every 100 questions put to him from Collier’s “Outlines of General History,” what a paltry knowledge of history would he have, and how poorly fitted would he be to teach and interest other minds in general history. A like remark might be made respecting every other subject. It must be borne in mind that education is not merely nor mainly a means to an end. It is something noble, substantial, and elevating in itself. We should consider what it makes of a man, how it develops and enlarges him. It furnishes for him exhaustless springs of pure enjoyment, and enriches his whole being. All these views are entirely independent of what education enables a man to do. If men only aimed at being more than they are, at having broader, higher, and juster views, they would be able to do more. It is what people are which gives weight of character, and enables them to influence and govern others.

I have reserved for the last a few remarks which I have to make about school government and discipline. About this there are very wide divergences in practice, whatever there may be in theory. Some may be said scarcely to govern at all, because they have no definite ideas about order or government. The main idea of others in respect to government is simply the use of terror. The sceptre is the rod. Some seem to be constitutionally devoid of the power of governing, and cannot be taught to rule well. The sooner a portion at least of all these classes give up school teaching the better for all concerned. I have had a number of well educated teachers under me who could do anything well but keep order in the class room. To rule well a person must have a natural gift or aptitude for it, and that must be trained

and developed. And I know there are some who never can be trained to govern others. A student once told me he never had been able to distinguish, by the ear, "Yankee Doodle" from the "Old Hundred." I concluded at once we could not make a musician of him. So it is with some about keeping order. They must have natural endowment enough to enable them at least to distinguish "Yankee Doodle" from the "Old Hundred." The best rulers have a gift or talent for this, and one of the first characteristics of this gift is that its possessor can govern himself. He must never lose control of his temper; if he does so he has lost the battle. A teacher must never give up to passion, or punish a pupil when his temper is hot. This I consider fundamental in the science of government. But one asks, "Do you allow corporal punishment in school?" I answer, "Yes, but as little of it as possible, and let it be appealed to only as the last resort, when everything else has failed." Let this be like angel visits. God uses this only as a last resort. He causes people to pass under the rod, to bring them under the bonds of His covenant. This is a most precious discipline, and should not be wasted. And when you do punish let it always be for an adequate reason; then let it be done thoroughly, honestly, pathetically. Let not your soul spare for the crying. Everything which is done, should be well done. The habit of scolding, cuffing here and slapping there, and threatening awful things, is an abomination in school and family. I believe that corporal punishment cannot yet be done away entirely, especially among younger pupils, but the nearer we can approach to its complete abolition the better. A woman once came to me and asked me to give her son a sound flogging. I answered, "No, madam. I have not come to that yet." "What! not flog in your school! You will never get along without it. Only see what scholars they make in Scotland, just with the taws, just with the taws!" In every case of correction make a thorough and even a long continued attempt to carry the convictions of the pupil with you. Make him feel, if possible, that your position is right. Remember, that most pupils only hear the rule, "Thou shalt not," &c., and not the principles which underlie it. They should see, if possible, the evil for which they are punished. School rules should be as few as possible and general in their nature. Many publish a long list of severe rules, and paste them up around the school-room. It is a mistake. These tend to demoralize the school, because they are never wholly carried out. The teacher, conscientious, loving, and earnest, should be as far as possible the embodiment of law and order. Pupils must be made to obey, lovingly, with approbation of their own reason and conscience if possible, but obedience must be secured. It lies at the foundation of all order, of morals, &c. A recent decision of the head of the Education Department—for whom I have the very highest regard—has drawn forth some discussion on this point. About the particular case which drew forth the decision I have nothing to say; but it seems to me as if some of the positions which were laid down on both sides need, at least, some explanations, if not limitations. To form in children habits of tattling and tale-bearing is vile and degrading; but there are some things which children should tell of when asked by the teacher which cannot be classed with tale-bearing.

This is a new element—when asked by competent authority. The young have laid down among themselves a law which is really immoral, and which, if strictly carried out, would render it impossible to govern a school. “We must not tell upon each other” covers a multitude of sins. While little can be said against this social rule, as it relates to the ordinary, trivial affairs of the school, it must not be made to cover wanton injuries, immoralities, or crimes committed by the scholars. We understand that the laws of our land are based upon right. Blackstone tells us that the law of God underlies the English law. Yet that law compels a man, when asked by competent authority, to tell upon his neighbour, if he sees that neighbour do a wrong, or commit a crime. Does this law compel men to degrade themselves? Is this tattling? Surely not. If it is perfectly right to make a man report against his neighbours in matters of this kind, for the welfare of society, I cannot see that it is very wrong to require a boy or a girl, or young man or woman, whom we may know to be acquainted with facts, to report for the good of the school, in the case of similar offences. This must not be ranked with tattling or tale-bearing. It is simply getting the pupils to help the teacher preserve the moral purity of the school. I have acted on this principle for many years, and I think I shall continue to do so. I have, as briefly as I have been able, endeavoured to set before you my conception of the teacher’s work, and some of the qualifications of those who undertake to do it. I must leave to each of you the most important, as well as the most difficult part of this address, viz., its practical application, in so far as you may find it suits your ideas and wants.

SOME RECENT CHEMICAL THEORIES.

W. H. ELLIS, M.A., M.B.

In the beginning of the present century, there was living in Manchester a teacher of mathematics, to whose truly philosophical mind, and to whose intelligent and unwearied labours, we owe that conception which has been of such incalculable value in the development of chemical science, and which is known throughout the civilized world as Dalton’s Atomic Theory. The idea that matter consists of ultimate indivisible particles dates back, as we know, to the philosophy of the ancients. It was reserved to Dalton to give definite form to what was before a vague idea by adding the conception that the atom of each kind of elementary matter had a definite weight peculiar to that kind of matter, and that chemical union was a union between atoms. The theory met with the opposition that invariably assails a new doctrine, but nevertheless gradually obtained the assent of scientific men; and, supplemented and extended by the laws of Avogadro, and of Dulong and Petit, it has played such an important part in the scientific thought of the present century, that it is not too much to affirm that without

it the magnificent edifice of modern chemistry would never have been built.

These discoveries in chemistry however, like those in other experimental sciences, have only been made after unwearied and painful toil. The questions addressed to nature by the chemist have often remained unanswered, or have been apparently answered only to mislead; and when, finally, after enormous labour, a pregnant reply has been obtained, it has brought with it new questions to be solved, new difficulties to be overcome.

As in the ascent of a mountain, when each successive eminence is surmounted, the traveller sees another peak loom up before his gaze seemingly more lofty and more difficult of access than the preceding one, so here, with infinite toil, after overcoming innumerable difficulties—after many a false step, and many a wrong turning that has cost him much weary wandering in the morasses of error, or brought him only to the foot of some inaccessible escarpment to surmount which all his efforts are vain—the chemist has at last attained, as he thinks, the goal towards which he has been striving, and from which he had fondly hoped to be able to make a comprehensive survey of the field of his science, and rejoice his eyes with the fair proportions of the landscape. But no sooner has he reached this eminence, than he is confronted by another peak, which towers above him in a grandeur so awful, veiled in mists so impenetrable, that he scarcely dares attempt to scale it; and if at times a ray from the sun of science seems to struggle through the thick clouds that environ it, and gild for a moment with rosy light some pure and snow-clad peak in the heights far above him, where the foot of man has never trod—even then he almost despairs of ever reaching those far summits, and is almost tempted to abandon a task which seems too stupendous for his feeble powers.

By the efforts of previous discoverers we have found out sixty-four chemical elements; we have arrived at a tolerably accurate knowledge of their most salient properties and their most ordinary combinations, with the laws which govern these combinations; and we have determined with tolerable accuracy their atomic weights. But here we are at once met by the questions, What is the cause of the difference between these elements, and what is the meaning of atomic weight? Are these sixty-four or more elements essentially different kinds of matter, and has each kind of matter an atom of a size and weight peculiar to itself? Or is there, after all, only one kind of matter which exists in sixty-four different forms? If the latter is the case, have these forms any dependence on the atomic weight, and if so, what dependence?

These are mighty problems, and until they are solved we shall never reach the lofty table-land upon which that onlooker must stand who is to frame the true theory of chemistry. Nor are there wanting adventurous thinkers and patient workers to attack the question.

One thing is certain. The only way to reach this height is to begin by getting over the ground that lies just in front of us, and making sure of every step we take.

Let us then look at these atomic weights a little more closely.

There are some curious relations among the atomic weights of certain of the elements which speculators have long noticed, and which have

attracted no little attention. Take, for instance, the three haloid elements, *Cl*, *Br* and *I*. Their atomic weights are as follows :

Cl 35.5 *Br* 80 *I* 127

Observe that the atomic weight of the middle term of the group is very nearly the mean of the atomic weight of the two extremes. There is also a well marked transition in the properties as we pass from the lower to the higher atomic weights.

1. The chemical energy decreases as the atomic weight increases.

2. *Cl* is a gas, *Br* a liquid, *I* a solid.

3. Specific gravity of (liquid) *Cl* is 1.33, of *Br* 2.9, and of *I*, 4.9. All form acids with *H* : *HCl* a powerful and very stable strongly acid gas; *HBr* more unstable and less strongly acid; *HI* still less acid and more unstable.

So with *S*, *Se* and *Te*, and *Ca*, *Sr* and *Ba*.

Atomic Wgt.	Density.	Melting Pt.	Atomic Wgt.	Density.	
<i>S</i> = 32	2	111-115°	<i>Ca</i> 40	1.58	<i>Ca SO</i> ₄ sol. in 500 aq.
<i>Se</i> = 79.5	4.3	217°	<i>Sr</i> 87.6	2.5	Slightly soluble.
<i>Te</i> = 128	6.2	500°	<i>Ba</i> 137	4	Insoluble.

The significance of groups such as these may be best shewn by referring to certain organic series, which present characters of striking analogy.

Let us take two series of hydro-carbons, the methane and the ethylene series.

		Molecular Weight.	Boiling Point.	Specific Gravity.
Tetrane	<i>C</i> ₄ <i>H</i> ₁₀	58	1°	.600.
Pentane	<i>C</i> ₅ <i>H</i> ₁₂	72	38°	.628.
Hexane	<i>C</i> ₆ <i>H</i> ₁₄	86	70°	.669.

It will be seen that of these three the mean of the molecular weight of the two extremes is the molecular weight of the mean.

		Molecular Weight.	Boiling Point.
Ethylene	<i>C</i> ₂ <i>H</i> ₄	28	Permanent gas.
Propylene	<i>C</i> ₃ <i>H</i> ₆	42	- 18°
Butylene	<i>C</i> ₄ <i>H</i> ₈	56	1°

The same thing applies here, and the same transition of properties is observable.

Now, suppose we were ignorant of the compound nature of these bodies, but were acquainted with their molecular weight, they would then appear to us to be strictly analogous to such groups as *Cl*, *Br* and *I*. On the other hand, if we suppose *Cl*, *Br* and *I* to be not really simple bodies, but to be formed one from the other by the successive addition of some unknown quantity corresponding to the *CH*₂ of the hydrocarbon series, we shall have a ready clue to the phenomena which we have noted.

It is needless to say that we have no evidence whatever that such is the case, and that *Cl*, *Br* and *I* have hitherto resisted all attempts to decompose them into simpler elements.

Nevertheless, these singular facts are well worth our attention, and they have been carefully studied by many thinkers. Among these philosophers, there is one who has pursued the subject with so much care, and who has obtained such remarkable results, that I will ask your attention while I endeavour to explain his views.

In 1869, M. D. Mendelejeff, a Russian chemist, announced the discovery of what he called "The Law of Periodicity of the Chemical Elements," which he stated as follows:—"The properties of simple bodies, the constitution of their combinations, as well as the properties of the latter, are the periodic functions of the atomic weights of the elements."

Leaving out for the present *H*, let us take the first fourteen elements in the order of their atomic weights, and arrange them in two rows as follows:

Li=7, *Be*=9.4, *B*=11, *C*=12, *N*=14, *O*=16, *F*=19.
Na=23, *Hg*=24, *Al*=27.3, *Si*=28, *P*=31, *S*=32, *Cl*=35.5.

Now, we see at a glance that in this arrangement similar elements stand over each other, as *Li* and *Na*, *N* and *P*, *F* and *Cl*, &c.

Also observe that the metals are all at the left, the non-metals at the right. The character of the compounds also changes gradually from left to right. The elements on the left hand have a strong affinity for *O*, those on the right for *H*. Only the four right hand members of the series combine with *H*, and the properties of these compounds change. Thus, *HCl* is a strong acid; *H₂S* is a feeble acid, easily decomposed by heat; *PH₃* is not an acid at all, and is readily decomposed by heat; *SiH₄* is a still more unstable body.

The character of the oxides changes from left to right thus:

Na₂O, *Mg₂O₂*, *Al₂O₃*, *Si₂O₄*, *P₂O₅*, *S₂O₆*, *Cl₂O₇*;

and hydrates:

NaHO, *Mg 2 HO*, *Al 3 HO*, *Si 4 HO*, *PO 3 HO*, *SO₂ 2 HO*, *ClO₃OH*.

Here we see a regular increase in valence from left to right, and also a regular change from base to acid.

The densities, as well as other physical properties, change regularly thus:

	<i>Na</i>	<i>Mg</i>	<i>Al</i>	<i>Si</i>	<i>P</i>	<i>S</i>	<i>Cl</i>
Density	0.97	1.75	2.67	2.49	1.84	2.06	1.33
Atomic vol.	24	14	10	11	16	16	27

The atomic volume is the number obtained by dividing the atomic weight by the specific gravity.

	<i>Ag</i>	<i>Cd</i>	<i>In</i>	<i>Sn</i>	<i>Sb</i>	<i>Te</i>	<i>I</i>
Atomic weight	108	112	113	118	122	125	127
Specific gravity	10.5	8.6	7.4	7.2	6.7	6.2	4.9

Now it is a remarkable fact that, with the exception of certain elements of which I shall speak immediately, all the elements can be arranged into series of seven in the order of their atomic weight, forming "periods" in which their properties change regularly through seven members, and are then as regularly repeated in the following period:

SERIES.	GROUP I. R ₂ O.	GROUP II. RO.	GROUP III. R ₂ O ₃ .	GROUP IV. RH ₄ RO ₂ .	GROUP V. RH ₃ R ₂ O ₅ .	GROUP VI. RH ₂ RO ₃ .	GROUP VII. RH R ₂ O ₇ .	GROUP VIII. RO ₄ .
1	H=1	—	—	—	—	—	—	—
2	Li=7	Be=9.4	B=11	C=12	N=14	O=16	F=19	—
3	Na=23	Mg : 24	Al=27.3	Si=28	P=31	S=32	Cl=35.5	—
4	K=39	Ca=40	—=44	Ti=48	V=51	Cr=52	Mn=55	Fr=56, Co=59, Ni : 59
5	Cu=63	Zn=65	—=68	—=72	As=75	Se=78	Br=80	—
6	Rb=85	Sr=87	Nt=88	Zr=90	Nb=94	Mo=96	—=100	Ru=104, Rh=104, Pd=106
7	Ag=108	Cd=112	In=113	Sn : 118	Sb=122	Te=125	I=127	—
8	Cs=133	Ba=137	Di=138	Ce=140	—	—	—	—
9	—	—	—	—	—	—	—	—
10	—	—	Er=178	La=180	Ta=182	W=184	—	Os=195, Ir=197, Pt=198,
11	An=199	Hg=200	Tl=204	Pb=207	Bi=208	—	—	—
12	—	—	—	Th=231	—	U=240	—	—

Another noteworthy thing is that if we take *H* as the first period and *Li Be*, &c., as the second, we find that the corresponding members of the various *even* series resemble one another much more closely than they do those of the odd series, and so of the odd series. Thus:

4th Period,	<i>K</i> ,	<i>Ca</i> ,	—,	<i>Ti</i> ,	<i>V</i> ,	<i>Cr</i> ,	<i>Mu</i> .
5th	<i>Cu</i> ,	<i>Zu</i> ,	—,	—,	<i>As</i> ,	<i>Se</i> ,	<i>Br</i> .
6th	<i>Rb</i> ,	<i>Sr</i> ,	—,	<i>Zr</i> ,	<i>Nb</i> ,	<i>Mo</i> ,	—.
7th	<i>Ag</i> ,	<i>Cd</i> ,	<i>In</i> ,	<i>Sn</i> ,	<i>Sb</i> ,	<i>Te</i> ,	<i>I</i> .

These series of seven elements are called small periods. I mentioned that there were certain elements which could not be arranged in these periods, and they come both by atomic weight, and properties between the last members of the even and the first members of the succeeding uneven periods. Thus *Fe*, *Ni* and *Co* come between the fourth and fifth periods:

Cr 52; *Mn* 55; *Fe* 56; *Co* 59; *Ni* 59; *Cu* 63; *Zn* 65.

Ru, *Rh*, *Pd* follow the 6th; *Os*, *Ir*, *Pt* follow the 10th.

An even period, an uneven period, and an intermediate series constitute a "*large period*."

The intermediate members are classed by themselves in an 8th group.

Now, granting, as I think we cannot help doing, that this periodic law of Mendelejeff is a natural one, you will see at once that we may use it as a guide in our researches.

Mendelejeff proposes the following ways in which his system may be used:

As a classification of the elements.

In the determination and correction of atomic weight.

To determine the properties of hitherto undiscovered elements.

To increase our knowledge of chemical compounds.

As an example of the method in which this classification may be used take the case of Indium. The atomic weight of Indium was formerly taken as 75, and its oxide *In O*. Mendelejeff, however, believed that *In*, from its properties, ought to come into his 3rd group; its oxide then ought to be *In₂ O₃*, which would make its atomic weight 113.

Now Bunsen has lately determined the specific heat of Indium to be .057, and this $\times 113 = 6.4$, which is sufficiently near the mean to shew that 113 is the true atomic weight.

But this is by no means the most remarkable result that M. Mendelejeff has got out of his law. If you look at the table for a moment you will be struck by a number of gaps, where there is no element occupying some position in the series. These gaps represent undiscovered elements. Now a little attention will convince you that if this arrangement is a true one, we ought to be able to predict many of the properties of these unknown elements. Mendelejeff has done so in several cases.

To distinguish these unknown elements he uses Sanscrit numerals, *eka*, *dwi*, *tri*, *tshatur*, &c., and places one of these numerals before the name of a typical element of the same group: thus, 72 = *eka silicium*, 68 *eka aluminium*. He published a pretty detailed description of several of these undiscovered elements in 1869, and among them *El*. This is what he said about it:

"Ekaaluminium $El=68$, density 5.9, a metal not oxidizing in air, fixed, fusing at a low temperature. Oxide $El_2 O_3$; salts $El X_3$; chloride $El Cl_3$, less volatile than $Zn Cl_2$. The sulphate will be soluble in water, and will form with sulphate of potassium a double salt, ekaaluminium alum, $K El 2 SO_4, 12 H_2 O$, which will crystallize in octahedra, and resemble common alum. Ekaaluminium will probably be discovered by means of a spectrum analysis."

This is a tolerably full description of this hypothetical element, quite sufficient, you will say, to permit of its recognition should it ever be met with by the chemist.

For some years past, M. Lecoq de Boisbaudrau has occupied himself with the question of the classification of the elements. Being familiar with the relations pointed out by Dumas and others between the atomic weights of certain elements and their properties, he applied himself to the study of these relations, and was led to discover many new ones, particularly, it would appear, in the spectra of the elements. From these studies he was led to frame a classification of the elements which, although the substance of it has been deposited in sealed packets with the secretary of the Institute, has not yet, so far as I am aware, been made public. It is therefore of course impossible for us to conjecture whether or not his scheme bears any resemblance to that of Mendeleeff, with which, he tells us, he was entirely unacquainted. Like Mendeleeff, however, he found in his classification a number of gaps, which he too was led to believe represented unknown elements. He then devoted himself during fifteen years to a series of researches, the object of which was to fill some of these gaps. After repeated failures, his labours were at length crowned with success; and on the 27th of August, 1875, between three and four o'clock in the afternoon, he had the happiness of discovering a new element, which, in honour of his native country, he called "Gallium."

In the beginning of the present year he had succeeded in obtaining from 430 kilogrammes of zinc blende about 65 centigrammes of gallium. He describes it as a grayish white metal, having a fine lustre; it is liquefied by the heat of the hand. When heated to bright redness in the presence of air it does not volatilise, and only oxidises very superficially. The density of gallium is 5.9. The sulphate of gallium is very soluble in water. M. Lecoq de Boisbaudrau has succeeded in obtaining a well-crystallized salt by neutralizing with ammonia an acid solution of gallium sulphate, which is to all appearance ammonia-gallic alum. Gallium alum crystallizes in colourless cubes with octahedral faces, and in octahedra with cubic faces. These crystals present exactly the aspect of common alum. "If, as seems certain," says M. Lecoq de Boisbaudrau, "there is no error in the nature of my gallium alum, the existence of this combination fixes the atomicity of the new element. The oxide of gallium will then be described as $Ga_2 O_3$, and the chloride probably $Ga Cl_3$." You will not be surprised to hear that on the publication of these properties of gallium, M. Mendeleeff, in a communication to the French Academy, claimed that this new metal gallium was neither more nor less than the ekaaluminium, the properties of which he had predicted five years previously, nor will you, I will

venture to say, hesitate to acknowledge that the correspondence is too close to be the result of mere coincidence.

It now remains for chemists to compare new elements, which may from time to time reward their researches with the other gaps still left in Mendelejeff's table. If they appear to fit these gaps, each additional discovery of this kind will tend to confirm the remarkable results of M. Mendelejeff, and to prove that the laws which he has enunciated are worthy to be so called. The truth or falsehood of this hypothesis will have to be demonstrated by experiments yet to be performed. According as it agrees with facts now known or hereafter to be discovered, it must stand or fall; but even in its present provisional condition it constitutes, I think, a good working hypothesis, and appears to me to open the portals of a new epoch in the history of philosophical chemistry.

TOWNSHIP SCHOOL BOARDS.

J. H. SMITH, ESQ., I.P.S., WENTWORTH.

The question of Township School Boards has been brought prominently before the public of this province during the past year. Leading newspapers have discussed it editorially, and correspondents have favoured the public with their views on the matter; while, at the recent County Conventions, when the Honourable the Minister of Education was present in his official capacity, this subject was freely discussed; thus showing that it is a *live* question in connection with our present school system.

The local management of our public schools has been wisely placed by the legislature in the hands of the people, who are left free to provide such a school as may meet the wants of the immediate neighbourhood. For this purpose two methods of local management have been devised, the one known as the Section, and the other as the Township Board System. To facilitate matters in the Section System, power was given to township councils to divide their respective townships into school sections, in each of which the people elected three persons as trustees. These trustees form a corporation, and are vested with certain powers, by the exercise of which a suitable school may be kept open in each section. These sections vary in size from a few hundred acres to several thousand, but the law now requires that "no section shall be formed which shall contain less than fifty resident children between the ages of five and sixteen years, unless the area of the section shall contain more than four square miles." Provision has also been made for the formation of union school sections, composed of parts of two or more municipalities. Changes in the boundaries of these sections are of frequent occurrence, and are a fruitful source of trouble to township councils, giving rise in many instances to petty quarrels.

The advantages claimed for the Section System may be briefly summarized, as follows : (1) That the people through their representatives, the trustees, can engage any legally qualified teacher they may desire ; (2) that they can determine the salary of such teacher ; (3) that they can fix the amounts to be paid for other school purposes, such as providing adequate accommodation, the purchase of prizes, maps, libraries, apparatus, and other requisites for the proper education of their children ; and (4) that they (the ratepayers) are better judges of the requirements of the section, in regard to school matters, than any person who is not a resident of such section. To sum up the matter, then, in a few words, the advantages claimed are, that each section shall have the entire control of its own public school, subject, of course, to the just and equitable demands of the School Law.

From the foregoing summary it will be readily seen that the question of expense is, after all, the primary consideration. Nor do we find fault with this fact, but regret that in too many instances efficiency is sacrificed in order that the section may have a cheap school. Now, this seems a serious mistake ; for at the best it is false economy to sacrifice efficiency for cheapness, especially in so important a matter as education. The object of all school legislation has been to make adequate provision for the establishment of a well equipped public school in each section. If we are then to judge our public schools by the quality of the work done as well as the quantity, as the primary consideration, making the question of expense of secondary importance, then we have no option but to say that the Section System has not met the reasonable expectations of the public. We are forced to this conclusion from a careful consideration of the reports of the various Public School Inspectors, from the number of inferior teachers employed, from the frequent changes of teachers, as well as from the inadequate remuneration which such teachers receive. It is useless to expect efficient schools when inferior teachers are employed, and it is equally vain to expect competent teachers to remain in a profession where the pecuniary compensation is so small. This, then, being the case, the Township Board System merits our most careful consideration, so that the local management of our public schools may be placed on the most satisfactory basis.

The principle of the Township Board System was first introduced in the School Act of 1850 by Dr. Ryerson, late Chief Superintendent of Education. This was amended in the Act of 1871, but these various clauses have been repealed, and special provisions for the establishment of Township Boards have been embodied in the Amended Act of 1877. To these provisions I therefore beg leave to direct your attention. However, before doing so it will not be out of place to quote a few remarks made by the Honourable the Minister of Education upon introducing the Amended School Act, during the last session of the Ontario Legislature. He says : " I propose to introduce a new machinery for the formation of Township Boards. Township Boards may now be formed under certain conditions mentioned in the School Law, but unfortunately those provisions are not sufficiently explicit to free any attempt of this kind from difficulty. I propose to make the formation

of Township Boards much easier and more acceptable than in the past. These provisions are entirely of a permissive character, and will enable school sections, if they think proper, to form Township Boards. It is optional with the school sections to adopt them, and cannot be imposed upon them by the department. I understand the cardinal principle of our system of education to depend upon the people themselves, in applying their own means and local knowledge in the management of the public schools."

The following is a brief synopsis of the special provisions of the Act relating to the establishment of Township Boards.

Clause 1 provides that the question of forming a Township Board may be submitted at the annual meeting in each section, and that if a majority in two-thirds of the sections shall so decide, the council of such township shall pass a by-law abolishing the section and establishing a Township Board.

Clause 2 provides for the division of the township into four wards.

Clause 3 provides that all the public schools shall be managed by one Board of Trustees.

Clause 4 provides that two fit and proper persons shall be elected school trustees in and for each ward.

Clause 5 provides for the time, place and manner of conducting the annual school meeting.

Clause 6 defines the name and the powers vested in the corporation, and states the duties and obligations to which they are subject.

Clause 7 defines the effect as to union school sections composed of parts of different municipalities. These cease to be united, but provision is made for re-forming them, if necessary.

Clause 8 provides for the adjustment of all claims between sections in the same municipality, by means of a committee, consisting of the County Inspector and two other competent persons, not resident in the township, whose duty it is to value the existing school-houses, sites, and all other school property, to ascertain the debts and liabilities of each and every section, or portions of the township, and to embody the same in a report to the Township Council.

Clause 9 provides for a similar adjustment of all claims in cases of union sections, where the portions of different municipalities composing such union section become disunited, consequent upon the adoption of the Township Board System in one or all of the municipalities affected.

Clause 10 makes provision for the repeal of the by-law establishing the Township Board, but not until the by-law has existed for five years.

Clause 11 makes provision for the adoption of the present system in townships where Boards are already in existence.

The machinery thus provided is of such a nature as to remove all fair and reasonable objections to the system, and to render its provisions capable of being carried into effect in any township wherein it may be adopted.

Objections doubtless may, and in all probability will, be taken to this system; and to some of the more prominent of these I now propose directing your attention. For example, the question may be asked,

shall we, who have already provided a suitable school-house, be required to assist in paying for one in another section in which the existing school-house does not meet the requirements of the law? We answer, that the committee appointed by the Township Council, under the authority of clause 8, will adjust such claims as these between sections in the same municipality, and report the same to the Township Council. The manner in which such committee will dispose of these and similar claims will depend to a very great extent upon the views held by the individual members of that committee. I can best illustrate the method that I would suggest by an example. Suppose, for instance, that a township consists of three sections—No. 1 being assessed for \$140,000, No. 2 for \$160,000, and No. 3 for \$120,000, making a total of \$420,000; the school-house, site, and other property belonging to No. 1 being valued at \$2,100, and the liabilities amounting to \$140, leaving a balance to the credit of the section of \$1,960. Similarly we find that the balance to the credit of No. 2 is \$1,600, and No. 3 \$1,440, making a total of \$5,000. Suppose, further, that the sum of \$1,300 is required to meet the expenses of the first year. This, added to the amount required to purchase the school property belonging to the three sections, would make a total of \$6,300 to be levied on an assessment of \$420,000, or a uniform rate of 15 mills on the dollar. Now, section No. 1 has \$1,960 placed to its credit, or a rate of 14 mills on the dollar on its assessed value of \$140,000, leaving only one mill on the dollar to meet current expenses. In a similar manner, we find that section No. 2, which has \$1,600 to its credit, or a rate of one cent on the dollar, would require a rate of five mills on the dollar; and in section No. 3, which has \$1,440 to its credit, or a rate of 12 mills on the dollar, a rate of 3 mills on the dollar to meet the current expenses. This method appears to me to be fair and equitable.

Another objection is that the Township System will be more expensive. The question of expense in connection with any corporation is at all times worthy of careful consideration, and I can see no reason why this system should be more expensive than the present one. Nay, I am convinced that it will be found the more economical of the two; for if we could obtain accurate information in regard to the losses sustained under the Section System, from uncollected taxes, the expenses incurred for collectors' fees, and the amounts paid the secretary-treasurer for services-rendered, the balance would be found in favour of the Township System. The Act makes no provision for the payment of trustees. The only officials then that would require to be paid are the secretary of the Board, the treasurer and the collector. The township clerk and the township treasurer might very properly be appointed clerk and treasurer respectively, and a reasonable increase in their present salaries would be all that would be required. The services of a collector might be dispensed with, for the trustees have authority to apply to the township councils for the amount necessary for the support of the schools. The township collector would doubtless require an increased remuneration for his extra service, but this increase would be far less than the expense of appointing a special collector for school purposes.

Another objection is that of centralization of power. This is a favourite theme with those who are anxious to appear as the champions of the

people's rights ; but I fail to see the force of this objection, or how it can justly be applied to the Township System. The phrase "centralization of power" may mean much or little. If by it is meant the placing of greater power in the hands of irresponsible officials, then the objection is groundless, since no such change is contemplated. If, on the other hand, is meant the placing of greater power and responsibility upon the people through their representatives, then it may justly be applied to this system. This, however, changes it from an unanswerable objection to a strong argument in its favour. For instance, certain regulations issued by the Education Department are found to be impracticable, and cannot be carried into effect in our rural schools. Section Boards of trustees, representing these matters to the department, would not carry the same influence that Township Boards would, since their experience is limited to a single school, whereas Township Boards, having a number of schools under their jurisdiction, would be able to form a more correct opinion as to the utility of these regulations, and in this manner assist the department in framing such regulations as would meet the real wants of our rural schools.

Another objection that is sometimes raised is, that good teachers may be sent to certain schools, while inferior ones are sent to others. This is not really an objection to the system, but a reflection upon the persons who compose the Board of Trustees. If the trustees, when engaging teachers, would take the precaution to have a proviso inserted in their agreements to the effect that at the expiration of a certain specified time these agreements shall become null and void by either party giving the required notice, then this objection can be removed by the trustees themselves. Of course, in this system, as in every other, a great deal will depend upon the intelligence and public spirit of the men composing this Board.

Another objection that is frequently urged against this system is that public opinion is unfavourable to it. This altogether depends upon what is meant by public opinion. If by it we mean the conclusions arrived at by those who are actively engaged in carrying out the provisions of the law, or the judgment formed by our leading educators, or the weight of opinion as expressed through the columns of our leading newspapers, or by all of these, then we must conclude that public opinion is decidedly favourable to the proposed change. But if, on the other hand, we mean the opinion of the majority of the ratepayers in our rural sections, then public opinion is, for the present, against this system. This arises, however, more from the want of properly understanding the nature of this system than it does from any inherent defects in it.

I have thus far endeavoured to explain the provisions of the Act relating to this system, and to answer certain objections that have been urged against it. I now propose to consider some of the advantages that are likely to arise from its adoption. In every township there are certain sections in which the schools are in a more or less backward state, and which under the present system are likely to remain so. This state of affairs is, to a very great extent, caused by the indifference of parents in regard to the education of their children, and therefore

but little interest is manifested in the welfare of the school. As a natural consequence, cheap teachers are employed, and cheapness in this article means inferiority. In such a section the great object of the trustees is apparently to keep down taxation, and their highest aim to see how cheaply they can manage their school. Under the Township System schools of this kind would certainly improve, since a uniform rate of taxation would be levied over the whole municipality, and these sections then would demand as good a teacher as their neighbours. A good teacher in a school exerts a powerful influence on the opinion of the neighbourhood in regard to education, and in this way many of our inferior schools would be greatly benefited.

Uniform examinations for promotion could be conducted to much greater advantage under this system than under the present one. A generous emulation among the various schools would cause both pupils and teachers to labour more diligently. Trustees having greater responsibility placed upon them, would look more carefully after the interests of the schools, since the people of the whole township would be watching them. The inspector could place the results of his inspection before trustees, and through them before the people, and in this manner the people would know which schools were making satisfactory progress and which schools were not. All the teachers in a township being engaged by the same Board of Trustees, and knowing that the results of their labours would be laid before that Board, would of necessity be compelled to do their work properly. The services of the faithful teacher would then be better appreciated than they are now, whilst those of the negligent or indifferent would soon be dispensed with.

There would be greater permanency in the profession, and a better class of teachers secured. One of the strongest objections to the Section System is the frequency of changing teachers. This is an evil inherent in the system, and cannot be eradicated until the system is abolished. Trustees are not alone to blame in this matter, since teachers are continually seeking changes in order to better their position. My observation leads me to the conclusion that competition between sections is a fruitful source of change. A good teacher is engaged in a certain section; some person in an adjoining section hints that if he should apply for their school, in all probability a larger salary would be given. The teacher is not backward in informing the trustees that he has had an offer of an increase of salary in another school. He perhaps may have several such offers, and concludes by taking the highest salary. And who can blame him? No one. He simply sells his labour in the highest market, the same as any other person would do. There is another phase of this competition between sections. The salaries of the teachers in several adjoining sections have been raised. One whose salary has not been raised demands an increase. This increase is refused. The teacher applies for another school, and gets it. The former school is very likely to fall into the hands of a raw and inexperienced teacher; the school goes down; troubles arise, and general dissatisfaction is produced. This is no fancy sketch, but simply a fact that I have observed for myself, and doubtless there are many present who can corroborate it from their own observation.

The principle of free schools has been conceded by the legislature, and with this, as a necessary complement, compulsory attendance is required within certain restricted limits. Now, in order that the Free School System may not become a burden in certain cases, and that the law relating to compulsory attendance may not be a dead letter, the adoption of the Township Board System has become almost a necessity. Scattered throughout our country are numerous small villages, whose inhabitants vary in number from 50 to 1,000. These villages usually form part of some rural section, and from the number of resident children of school age, the services of two or more teachers are required. The expense of keeping two or more schools open, as may from time to time be required, together with providing the necessary accommodation, causes a heavy burden to be laid on the farmers who may happen to own farms within the limits of such section, while in the adjoining sections, in which there are no villages, the expenses are comparatively light. To illustrate this point, I will cite a case that has come under my own observation. A rural section containing some 3,600 acres, has within its limits a village containing some 400 or 500 inhabitants. To meet the requirements of the law, three teachers are employed and three rooms provided, together with the fuel, caretaker's salary, and other necessary expenses. The value of the assessed property is about \$150,000, upon which a rate of 7 mills on the dollar is required in order to meet ordinary expenses. Adjoining this is another section containing 3,700 acres, assessed at \$145,000, in which only one teacher is required. The annual rate required to meet all expenses is 3 mills on the dollar. In the one case the people have as good a school as in the other, and at a much less expense. There are doubtless many such cases to be found in this Province, and the time is approaching when we will have to grapple with this question in earnest. A correspondent of the *Journal of Education*, signing himself "School Trustee," thus forcibly argues the matter. He says: "The present system is willing that I, who send no child to school, should pay three times the school tax of my grocer or my blacksmith for free schooling for the mechanic in possession of an income of from \$500 to \$900 per annum, but it shudders at the idea of any of my taxes going to the benefit of poorer sections. I thought that the grand principle constantly paraded by the advocates of free schools and compulsory education was the improvement of the people generally. Surely, then, if I and others in similar circumstances are to pay for the education of other people's children, we should be permitted the satisfaction of knowing that our money has been appropriated not to wealthy sections and people, but to poor or small sections. I would simply ask why, on the principle of free schools and compulsory education, the acme of philanthropy, the poor or small sections should not be assisted by the more wealthy parts of the township?" It will thus appear that the Township Board System is the natural complement of free schools, since it distributes equally the burden of taxation for the support of these schools uniformly over the whole township. The principle of decentralization has been carried too far under the rate-bill system; and now that that system has been abolished, we must retrace our steps, and enlarge the area for uniform

taxation. The area that will be found most suitable is the township, since it will be uniform for both municipal and school purposes.

Again, this system may be looked upon as the necessary complement to compulsory attendance. There can be no doubt but that the law relating to compulsory attendance is in many sections a dead letter. This may be traced to the fact that section trustees do not wish to get the ill will of their neighbours by enforcing the law, and therefore the matter is allowed to pass quietly by. Now, under the Township System, this could and doubtless would be removed, since fewer personal matters would arise.

Many additional reasons might be brought forward to show the superiority of the Township System, but we shall content ourselves with simply pointing out a few of them: the payment of teachers' salaries quarterly, more accurate statistical information, fewer difficulties in settling disputes about section boundaries, more liberal and comprehensive views of education, and many minor matters of detail in regard to the management of our public schools, which in the aggregate go very far to make this system one to be much desired.

If, then, the Township System possesses so many advantages over the Section System, how does it happen that so few townships have adopted it? To this we reply that all former Acts have been so beset with difficulties in getting the system into working order, that few have attempted it. Again, the working of this system and the advantages which it possesses are not sufficiently well known. Changes in our laws, especially those relating to our public schools, are not relished by the people generally. Great changes advance slowly. It took twenty years to come from a rate-bill of twenty-five cents per month to our present Free School System, and the same time to obtain a uniform standard of qualification for our teachers. Then old corporations die hard. People who have once tasted the sweets of office, or exercised a little "brief authority," or obtained a little public notoriety, do not like to see these sweet morsels snatched from their lips. From my experience in discussing this matter in rural sections, I am convinced that this is one of the strongest reasons why the Section System is so firmly fixed, and why so much opposition is manifested to the Township System.

The question is frequently asked, should the adoption of this system be made compulsory? We answer, by no means. The only point in which compulsion would be at all allowable is the one provided for in the School Act, and that is, that when a majority of the ratepayers decide in favour of this system, the Township Council shall pass a by-law giving effect to the wishes of this majority.

In conclusion, I would say that my object in discussing this subject has been to arrive at a correct solution of the problem of securing the most efficient system of local management for our public schools. Our school system is justly our pride, but there are certain weak points in it, to which we will have to devote our best energies in order that these defects may be remedied. To me, the Township System seems to be one of the "missing links." We have a Free School System so broad that it reaches every child in the land, and in which, by a compulsory

clause, these children have the right to be educated, a right of which every Canadian should feel proud. To complete this system we now require the Township Boards, so that the burden may be borne equally by all, and no one deprived of the rights which are inherent to us as Canadians. We must endeavour to rise superior to narrow views of education, and take in a wider scope than that of the few acres that may be in our own section. If we are to have a truly national system of education, then we must look upon it not merely from our own doorstep, but from that of our neighbours as well. To materially assist us in securing the better education of the masses, and in making our system a national one, seems to be the object aimed at in the establishment of Township Boards.



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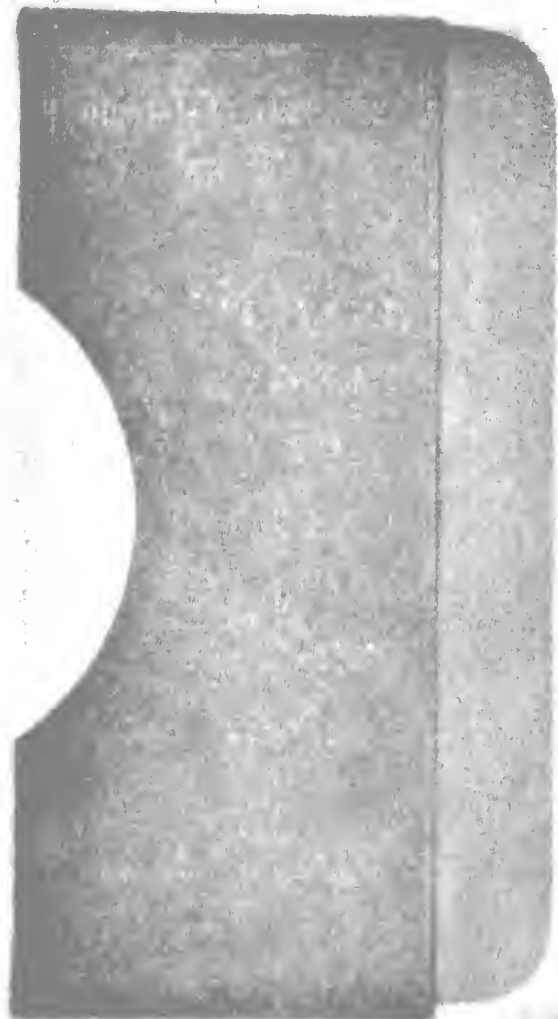
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